Physiotherapy Student Interaction with Home-based Carers and the impact on service delivery.

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Declaration

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Synopsis

Title: Physiotherapy Student Interaction with Home-based Carers and the impact on service delivery.

Introduction: The national health system is experiencing major challenges due to a shortage of key human resources and a quadruple burden of disease. A cadre of trained community health workers, namely home-based carers (HBCs), have been trained in response to an increased need for health services. It is unclear to what extent the HBCs are able to provide rehabilitation support to their clients. **Methodology:** A quasi-experimental design was used to identify the impact of the collaboration between HBCs and physiotherapy students. Fifty HBCs from four organisations working within the Cape Town Metropolitan area were randomly selected and assigned to a control (n=25) and experimental (n=25) group. A validated checklist, based on the National Guidelines on Home Based Care and Community Based Care (Department of Health. 2001), and a self-developed questionnaire was used to determine the demographics and training of the HBCs; and the conditions of their clients.

Results: The results indicated that the HBCs were predominantly middle aged females with a highest qualification of Grade 12. No differences in gender or age were seen when we compared the control and experimental groups. The mean age of our sample size was 40.9 years (SD 11.13 and range 20-67 years), with a mean age of 43.6 year (SD 10.7) in the control group; and 38.1 years (SD 11.1) in the experimental group. There was a significant difference in the mean career length (with a mean of 778 months in the control group, and 497 months in the experimental group (p=0.006)) and length of training (mean control group = 773 months and experimental group = 502 months (p=0.007)) between the control and experimental groups. Although the control group spent more time on wound care and mathematics, the content of training was similar across the four organisations with HIV/AIDS topics reported by all respondents. There were no differences between the groups with regards to client profile, which included age, diagnosis and main problems. Despite the similar training opportunities, the HBCs who hosted physiotherapy students demonstrated significantly more interventions in every domain (activities of daily living (p=0.025), personal needs (p=0.006), environment needs

(p=0.002) and lifestyle needs (p<.001)) than those who had not been exposed to students, except for the Core Home/Community Based Care (CHBC) (p=0.743). From the 25 HBC's in the experimental group, only twenty completed the questionnaire with regards to attitude towards collaboration with students. Of these twenty, 16 indicated that they strongly agreed that working with physiotherapy students was a good experience and that the students contributed to their understanding of the clients and their conditions. Eighteen of them also indicated that they learned from the students. The students were also supportive towards this program as they responded positively on each question, except for learning from the HBCs, which had a high neutral response rate.

Conclusion: The training of the HBCs seems to prepare them insufficiently towards the management of their clients, who present more often with chronic diseases of lifestyle than with communicable diseases, as seen in the past. Exposure to a different discipline within the home context does result in an improvement of skills, especially in areas not covered by basic training. HBCs' skills with regards to rehabilitation can be improved by collaboration with physiotherapy students at community placements**.** This collaboration is shown to be mutually beneficial. Therefore, we recommend the implementation of this collaboration model in future as all health professionals need continuous support to maintain a high standard of care and upgrade their skills.

Key words: community health workers, home based carers, burden of disease, HIV/AIDS, service delivery, task-shifting, CBR, adult learning, experiential learning

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Abbreviations

ADLs – Activities of daily living

AIDS – Acquired immunodeficiency syndrome

ANC – African National Congress

BOD – Burden of disease

CBR – Community based rehabilitation

CHC – Community health centres

CHCBC – Core home community based care

CHWs – Community health workers

CVA – Cerebrovascular accident

DOH – Department of Health

DOTS – Direct observed treatment, short-course

EPWP – Expanded Public Works Programme

HBCs – Home based carers

HCBC – Home community based care

HIV – Human immunodeficiency virus

HPT – Hypertension

ICF – International classification of function

NGO – Non-governmental organisation

NIH – National Insurance of Health

NPO – Non-profitable organisation

OA – Osteoarthritis

PHC – Primary health care

PWD – People with disabilities

RA – Rheumatoid Arthritis

TB – Tuberculosis

WHO – World Health Organisation

1 Chapter 1: Introduction

1.1 Introduction

The South African health system is struggling to cope with an increasing number of people seeking health care, mainly due to communicable diseases, especially human immunodeficiency virus (HIV)/acquired immunodeficiency syndrome (AIDS); non-communicable diseases of lifestyle; maternal, neonatal and child deaths; violence; and injury (1, 2). South Africa has the highest HIV/AIDS burden in the world, with 17% of all HIV/AIDS cases worldwide (2). In addition to the quadruple burden of disease (BOD), a shortage of key human resources is also one of the challenges the national health system is experiencing (3). The increase in disability due to longevity and the growing prevalence of non-communicable disease is rapidly becoming a public health concern (4). It is estimated that approximately 10% of South Africans have difficulties with functioning (5, 6). According to the 2011 census, the Western Cape has a disability prevalence rate of 5.4%, with vision problems as the most common, followed by physical disabilities (5, 7). Further, 5.9% of the South African population have difficulties with walking or climbing stairs and self-care, for which they may require access to rehabilitation services (6). The United Nations Development Programme speculates that in developing countries only 2 to 3 % of those in need of rehabilitation receive a meaningful service (8).

In 2006 the World Health Organisation (WHO) proposed “task shifting”, which is a delegation of tasks to less qualified but competent personnel (9, 10). The strategy for a rapid expansion of the health workforce is adopting the task shifting approach, with the deployment of community health workers (CHW) (11).The WHO proposed training of community health workers, in response to the HIV pandemic particularly in low resource settings (10, 12, 13). CHWs could be a potential solution to the shortage of trained health care workers (14), as they can make a valuable contribution improving access to basic health care (9,15). This chronic shortage of well-trained health workers, which is felt mostly in developing countries (16) is also apparent in South Africa (17). The National Health Insurance (NHI) estimates that the patient-health professional ratio is lower in the private sector than in the public sector, as the public sector is under resourced when population size is compared with BOD (3). The

implementation of NHI scheme was proposed by the South African government in 2009. It was recommended by the NIH that each municipal ward establish a Primary Health Care (PHC) outreach team that included CHWs who will play a crucial role and possibly act as an extension of health care services at community level (18).
South Africa has well-trained mid-level workers and other health workers to respond to this health crisis (10, 19). The CHWs are linked to primary care facilities where they perform a wide range of functions, including community mobilisation, advocacy, specified primary care activities, basic counselling, referrals and health education (9, 20).

The training of health professional requires that skills and knowledge are learnt across all levels of the public health system, including community based services (21). The use of community service placements in the training of health professionals is well documented (22, 23, 24). The purpose however, varies across disciplines. In Australia, rural community placements have been used in experiential learning activities for the retention of health workers in rural areas (25). The third year Physiotherapy students from the University of Cape Town (UCT) accompany HBCs on their home visits as part of their physiotherapy clinical training practicum. The purpose of this clinical block is to prepare students in providing rehabilitation services within communities where access to these services is limited. The idea of exposing the students to a deprived community is to develop an understanding of which resources are available and how these resources will influence the patients' health and functioning within the community. One of the objectives of the community placement is to integrate home based care and physiotherapy by transferring relevant physiotherapy and rehabilitation knowledge and skills to the HBCs, their clients and their family, in order to manage clients who do not have access to rehabilitation services. The students will assess clients and provide guidance through education to the HBCs, their clients and their families with regards to future treatments.

In 2002, the WHO launched the International Classification of Functioning, Disability and Health (ICF), which presents a conceptual framework for understanding the interaction between health conditions, functioning and environmental factors (26). This framework is used to inform the curriculum of the BSc Physiotherapy students registered at the University of Cape Town. They are taught a holistic client management by assessing and analyzing the

relationships between the impairments, activity limitations, participation restrictions, environmental factors and personal factors of their patients. As students are required to undertake community service after graduation, they need to be prepared to work within a community setting. In order to achieve this goal, the students are placed, on a rotational basis, with HBCs in the deprived areas of Cape Town. Higgs and Titchen (2001) claims the primary goal of practice is to move closer to a *"model of client-centered, clinically and socially effective care"* (27). One of the advantages of home rehabilitation is the client-centered treatment program (28). This model promotes sharing of power and responsibilities between clients and health professionals, which will lead to the development of social and community-based partnerships (22). Lorenzo (2006), state that students could make a positive contribution towards service development (22). However, since there is no current evidence to support this notion of positive interaction between students and HBCs, this hypothesis needs to be tested empirically.

The goal of placing students with HBCs in a community setting is to build interpersonal relationships with the HBCs and together develop more comprehensive treatment plans for the clients. It is anticipated that the HBCs and the physiotherapy students would exchange theoretical knowledge and practical skills and thus improve their scope of practice and service delivery.

1.2 Statement of the problem and the research questions

HBC have been found valuable in providing care to those in need, and who are unable to access formal services (9, 29). However, to ensure that they are clinically competent regular refresher courses and/or training are necessary to retain their acquired knowledge and skills (9). Although there is support for the use of HBCs, Smith et al (2004) have raised concerns about the knowledge and skills of HBCs to render rehabilitation services at community level (30), as this does not form part of their formal training. In the Cape Town context, HBCs have been primarily trained to provide nursing care and have therefore limited exposure to rehabilitation knowledge and skills (10, 17). It is therefore, necessary to record the type of

training the HBCs receive, and more importantly, to assess exactly to which tasks the HBCs are exposed during their visits.

In Cape Town, CHWs exceed the number of rehabilitation professionals at community level (31). Hence, it is important for service planners to understand the scope and practice of this cadre (31). Community health centres refer clients to CHWs, who are not trained within the field of rehabilitation. The literature suggests ongoing or continuing training as essential as the initial training for improving the quality of services (9). Although a positive collaboration between HBCs, students and clients was expected; the value of this interaction needed to be documented. We hypothesised that HBCs who had the opportunity to work with physiotherapy students will demonstrate a wider repertoire of intervention methods as they would have more real life learning moments with their clients while the physiotherapy student was present. Under guidance of the physiotherapy student, the HBC could reflect on and implement the learned skills (32). In addition, the students would become aware of the challenges people with disabilities face within the community; and the HBC would be a role model, teaching them culturally appropriate ways of interacting with clients.

Therefore, this thesis will try to formulate answers the following research questions: (I) Who are the HBCs and what type of training did they undergo? (II) How does their client population look like in practice? (III) What are the tasks of the HBCs during their home visits? (IV) Does interaction with physiotherapy students lead to an increase in skills of HBCs? If so, in which areas of practice would this improvement be most evident? (V) Do HBCs find interaction with students helpful? And finally, (VI) what is the attitude of the students towards this community placement?

1.3 Aims and objectives

The overall aim of the study was to assess whether the collaboration between HBCs and physiotherapy students at clinical placements in the community positively impacts the practice of HBCs.

1.3.1 Objectives

The specific objectives of this thesis were based on a group of HBCs employed by community organisations that provide placements to UCT students, and were as followed:

- To develop a profile of HBCs with regards to age, gender, highest qualification and number of years employed as a HBC
- To establish the nature of the case load of the HBCs by describing the clients in terms of age, gender and diagnosis
- To establish whether aspects of rehabilitation are covered in the HBC curriculum by describing the current or previous training offered by home based care organisations in terms of content and length of training; and methods of instruction
- To document the observed scope of practice in terms of the nature and number of interventions and tasks performed during home visits.
- To determine if the collaboration between HBCs and physiotherapy students is associated with better performance by comparing the frequency and nature of activities performed by HBCs who have been accompanied by physiotherapy students with the activities performed by HBCs who have not
- To determine whether the HBCs found the interaction with physiotherapy students to be supportive and useful.
- To establish whether the students perceived the community placement to be beneficial.

1.4 Rationale and justification of the study

In Cape Town there are 2 584 trained community care workers in 202 non-profitable organisations (NPOs), therefore, it is important for service planners to understand the scope and practice of this cadre; and the nature of the training they receive (33). In addition, in order to ensure best practice and improve quality of training of adult learners, a constant assessment of teaching efficacy and training methods is necessary. The literature suggests ongoing or continuing training is as essential as the initial training for improving the quality of services (9). If this assertion is supported by the results of this study and in addition, the

collaboration between students and HBCs is found to be associated with an increased skill-level of the HBCs, the employing organisations and local authorities will more likely provide continuing professional support to the HBCs.

The results of this study will also be beneficial to the UCT Division of Physiotherapy as it may provide evidence to support the continuation of placing students in similar community settings.

A further anticipated outcome will be the improvement in care of the HBCs' clients, who are in need of rehabilitation intervention.

1.5 Context of Research

In the Western Cape Province, the Comprehensive Service Plan for the implementation of Health Care 2030 describes community-based services (CBS) as complementary services to facility-based services, which provide services within communities and create mechanisms to increase awareness of health needs within these communities (34). This approach aims to empower active participate in disease prevention and adherence to health programmes in the community. The health workers providing CBS will predominantly be generic community-based workers. They will provide services to non-health institutions such as schools, old-age homes, prisons, crèches and de-hospitalised clients in need of basic nursing care or rehabilitation. It is envisaged that professionals within the metro district will function within a multi-disciplinary team and will, among other responsibilities, provide support to the mid-level workers employed by NGOs. The fundamental premise of the Health Care 2030 strategy is to improve efficiency and quality of care (34).

Health services are delivered in the structure of a primary health care (PHC) platform and a hospital platform (34). The PHC service includes the Home and Community Based Care, Primary Care and Intermediate Care. The hospital platform, on the other hand, consists of three levels of care, namely: the district hospitals (Level 1), the regional hospitals (Level 2) and the tertiary hospitals (Level 3) (34). There are 479 PHC facilities in 32 sub-districts and six districts (five rural districts and four sub-structures in the district of metropolitan Cape

Town). There are 44 community health centres (CHCs) and 99 clinics within the cape metropolitan (35).

Community based health workers are employed by NGOs to provide the above mentioned services (36). A two way referral system is in place to facilitate the collaboration between CHCs, PHC providers, district and regional hospitals (36). The CHCs refer clients to the HBC-organisations, who are contracted by the DoH and who manage their clients in their home environment. In case of a medical emergency, these clients are referred back to the CHCs or clinics via this two way referral system.

At the Division of Physiotherapy of the University of Cape Town, students are introduced to clinical work from their third year of study onwards. The students rotate through different clinical placements and are assessed at the end of each clinical block. In order to prepare students for their community service year, which is compulsory after graduation, physiotherapy students are placed in a community placement. This block includes supervised home visits within the communities by either their clinical supervisor and/or HBCs. The students accompany the HBCs on a daily basis.

The main objectives of these community placements include following learning skills (UCT Physiotherapy – Guidelines to Clinical Practice 2014):

- to integrate home based care and physiotherapy,
- to adapt the physiotherapy treatments to different homes and environments
- to transfer knowledge and skills to the HBCs and their clients, by providing guidance on future treatments and to educate the clients and their carers appropriately.
- to familiarise themselves with the available resources within the community and appreciate the different community dynamics and contexts.

Eight to ten students are placed within the community block for five weeks where they are supervised by a clinical educator. The supervisor accompanies the students and the HBCs on their home visits. He/She gives input and feedback on the performance of students and HBCs and advices on further client management.

2 Chapter 2: Literature Review

2.1 Introduction

An extensive review was completed in order to explore the response to the gaps in the global and local health systems, the history of community health workers (CHWs), the role of home based carers (HBCs) and how beneficial the transfer of skills between students and carers can be with regards to service delivery. EBSCO, Medline and Google Scholar were searched using the following keywords: home based carer, community health workers, task shifting, burden of disease, adult learning and service delivery. Government documents were sourced from the appropriate websites. Literature will be presented on both health service and adult learning, as adult learning is related to both the HBCs and the students; and is a key aspect of our research.

2.2 Mid-level workers

Mid-level workers are defined as "*health care providers who are not professionals but who render health care in communities and hospitals*." (16). These workers are able to undertake some of the functions and roles which are normally reserved for qualified health professionals (16). Their training is limited and they are therefore restricted in their professional practice. However, they might have a formal certificate and accreditation as it does form part of a tertiary education or degree (37). Some mid-level workers are supervised directly or indirectly by professionals, while others work independently, leading health care teams in primary and community care (38). Mid-level workers play a vital role in minimizing the ever-increasing demands of health services in the communities (16). The Pick Report (2001) also recommended the creation of a midlevel worker category at all levels of care within the South African Health Care System (39).

Mid-level workers include varied cadres of community based health workers such as community rehabilitation facilitators, community-based directly observed therapy supporters for tuberculosis, traditional birth attendants and HIV/AIDS communicators (40). More formally trained mid-level workers include auxiliary nurse aides, medical assistants and paramedical workers which are in most cases more facility-based (40). The most successfully

developed and integrated mid-level health care workers are the emergency care workers, including ambulance assistants (basic and emergency) and paramedics. These mid-level workers are an integral part of emergency care teams, both in private and public services (41).

2.3 Response to the global gap

The human resource shortage in health care is critical and has contributed to a lack of health services and structure across the world, being most evident in sub-Saharan Africa and parts of Asia (42, 43). Because there is a global deficit of trained health workers (13), health systems around the world have had to adapt and reform to fill the gap between institutional care and home care, thus creating a seamless health care system (20). Geographically, a mismatch of healthcare professionals exists; favouring urban and wealthier areas in both developed and developing countries (43). Due to limited human resources, patients are being discharged earlier for which they need de-hospitalised home-care for ongoing personal clinical care (44). These recent changes in health service delivery have shifted the location of care from institutions to the community (44). Shortages of health workers present a major obstacle in the upscaling of HIV services in countries with a high HIV/AIDS prevalence. One of the strategies for a rapid expansion of the health workforce is the adoption of the task shifting approach for the deployment of community health workers (11).

CHWs have no formal professional training degree; however, they deliver healthcare related services within the community (14). The WHO recommends that CHWs are incorporated in the health service delivery as they act as a bridge between community and health services (45). Based on this recommendation, community and home-based care was introduced in a number of African countries during the late 1980s and early 1990s to assist families with home care (19). CHWs have become a distinguishing feature of many primary health care (PHC) initiatives and their deployment has become an important component of health service delivery (45).

Community based rehabilitation (CBR), a strategy based on the PHC philosophy, was developed in response to the shortage of rehabilitation professionals, specifically in low

income countries (46). This strategy primarily utilises community and family members in the support of people with disabilities (PWD) (47, 48). CBR has been effective in providing rehabilitation services to PWD and their families for the last 30 years (47). CBR is placed within a community development framework and places equal emphasis on inclusion, equality, socioeconomic development and rehabilitation of PWD (47). Due to the growing global emergence of the disability movement, the WHO endorsed changes in the approach of disability services (15). PWD and their families will benefit from the CBR worker's skills by positively changing their lifestyle and quality of life (48). Further, the community will also benefit from the CBR worker's skills as it will positively influence the initiated community projects (49).

2.4 Response to local gap

South Africa, as a middle income country, also faces considerable challenges in achieving its vision of equal access to quality of care (19,38). There is a large variation in accessibility of health services in South Africa, with most people unable to access high quality health care services (2). PHC is the basis for transforming the health services in South Africa (51). The PHC system in South Africa has been overstretched due to epidemic diseases like HIV/AIDS and opportunistic infection such as TB.

In the mid-1990s, home and community-based carers (HCBC) and lay counsellors were employed by NGOs supported by the state of South Africa. They were trained in providing services which entailed testing and counselling of HIV and TB; and providing long term care in a home-based environment as institutional care became too expensive (20). However, their remit was not only medical, as the service package guidelines for HCBC state, "*CHW play an important role in supporting Home Community-Based Care which goes beyond service delivery to a level of community self-empowerment*" (52).

The major objective of The Expanded Public Works Programme (EPWP), which was implemented in 2001, was to address the high unemployment levels and lack of skills in the country (53). The EPWP provided the opportunity to develop the skills and capacity of the HCBC workers for delivering quality services in areas of challenges. In addition, this program

provided work experience and income for unemployed people living in poverty (53). According to the EPWP, the reason for implementing the HCBC programme was to alleviate the impact of HIV/AIDS in communities, especially in areas where households have limited access to formal health care. Hence, CHWs emerged in response to the HIV/AIDS epidemic, and as part of a job creation strategy (10, 53).

Despite these initiatives, inequalities in accessibility of health care still persist. To tackle this problem, the Health Care 2010 strategy was formulated in 2003 (54).This strategy mainly focused on primary level services, community-based care and preventative care. Health Care 2010 states: "*In support of the national strategy to extend the training of mid-level workers across various disciplines, the Department will embark on training of mid-level workers with priority given to the training of persons for home-based care*" (54).

In 2004, the national CHW policy framework was adopted in South Africa and the term 'community health worker' was introduced as an umbrella term to cover community and lay workers in the health sector (10). This term also includes home care provided by HBCs, which is defined by the WHO as "*the provision of health services by formal and informal caregivers in the home in order to promote, restore and maintain a person's maximum level of comfort, function and health including care towards a dignified death"* (55).

In 2004, the majority of an estimated 40,000 lay workers who were employed in South Africa were trained as single purpose workers. As the African National Congress (ANC) Health Plan identified the importance of CHWs in PHC service delivery, they invested in the training of more multi-skilled/multi-purpose HIV/AIDS workers (10). In addition, the government explores the possibilities of contracting NPOs to strengthen the PHC services and to reach everyone in need of these services (51).

"*The effective functioning of community-based services is designed to reduce pressure on facility-based care, and to strengthen facility-based services by providing healthcare directly to the community, and through actively empowering the community to participate in preventive and adherence health programmes*" (56). The deployment of HBCs remains an important strategy in providing a continuous, uninterrupted health system. By 2010, the

Western Cape DoH contracted 155 NPOs, who employed 2 245 caregivers of which 1189 HBCs were employed within the metropolitan area, excluding community health workers, DOTS workers, institution placed cadres, management of chronic diseases and HIV support workers (56).

However, challenges with regards to the training of CHWs, in particular HBCs, have been identified. The training and supervision of CHWs lacks standardisation and is not sufficiently integrated with other health services (9). The HBCs, in particular, are linked to NGOs, who provide mass training and therefore on-going formal supervision from professionals is missing.

2.5 Global initiatives related to providing community and home based care

Community health workers' programs were established in the 1970s and expanded over the years as a result of the 1978 Alma Ata Declaration conference on PHC and an increasing global support (9). Encouragement of these programs made them became part of the health system in many developing countries. They were seen as a key element in achieving the WHO's goal "Health for All" (14).

Many CHW programs were established in the 1970s in low and middle income countries (14). By introducing a health cadre known as Lay Health Worker, countries were able to provided health services in problem areas.

In the 1940's the 'Barefoot doctors' program was created in China in response to the maldistribution of medical services (57). Basic training was given to thousands of rural peasants who were chosen by their colleagues. By 1977, there were over 1.7 million barefoot doctors, however, by 1981 the programme was put to an end as more professionally trained doctors and nurses became available.

Brazil started a Family Health Programme in 1990, which consisted of a team of physicians, nurses and CHWs. Between 1990 and 2002 a large reduction in the infant mortality rate and

deaths from diarrhoea was seen (58). Due to this program, an increase of 36% in population coverage was seen, which could have never been achieved without the help of CHWs.

In Iran, a large number of para-professionals, called behvarz, provide vaccinations and monitor child growth during home visits in underserved areas (59). This program let to decrease in infant mortality rate by 50% and an increase in immunisation rates from 20% to 95% between 1984 and 2000. Iran has a highly successful family planning program in which the behvarz are extensively involved by providing birth control methods and advice. The program resulted in an extreme improvement of maternal mortality (59).

In India, CHWs have been used to increase mental health services and decrease the stigma around mental health. Besides conducting community surveys related to mental health, the CHWs were also trained to identify and refer patients with mental illnesses (60).

In Tanzania, the village health workers assisted pregnant women with birth planning, antenatal and obstetrics services and care, identifying danger signs and health promotion with regards to pregnancy (61).

In Uganda, CHWs helped reducing child mortality rates, which led to the achievement of this health related Millennium Development Goal (62). The Safe Motherhood Initiative established a pregnancy monitoring system (63), which was developed to promote safe motherhood; provide women with basic information and counselling on family planning; and to identify pregnant women at risk so they could be referred to appropriate health clinics (63).

These examples provide evidence for the effective use of CHWs to address the population's health needs. CHWs can play a key role in improving health as they have positive effects on mortality and other indices of health status (63).

As the cost and access to medical care is one of the major problems, especially in the developing countries, CHWs offer less expensive services than clinic-based alternatives (9). Further, CHWs are more accessible and acceptable to clients in their communities. It is

estimated that an extra one million CHWs are needed in Africa to achieve the health related Millennium Development Goals (61).

2.6 Defining the role of home based carers in South Africa

As mentioned above, one of the major objectives of The Expanded Public Works Programme (EPWP) was to address the high unemployment levels and the lack of skills in the country. The EPWP provided the opportunity to develop the skills and capacity of the HCBC volunteers for delivering quality services in areas with challenges. The program also provided work experience and income to unemployed people who lived in poverty (53). According to the EPWP, the reason for implementing this HCBC program was to alleviate the impact of HIV/AIDS in communities, especially for households who have limited access to the formal health sector.

According to the South African National guidelines on home-based care/community care, the goals of home-based care are (47):

- to shift the emphasis of care to the community,
- to ensure that, through a functional system of referral, the access and follow up of care is guaranteed,
- to integrate a comprehensive care plan in both formal and non-formal health systems
- to empower families and the community to take care of their own health, and
- to reduce the number of visits and admission to health facilities.

It was anticipated that by improving home based care, a more cost effective planning and delivering of services could be achieved. Several advantages of home based care include: reducing the patient load in hospitals and load on resources at different service levels; reducing costs of care within the health system; promoting a holistic approach to care; and ensuring all health needs are covered.

HBCs are part of the service delivery teams within the District Health System (DHS), who are responsible for promoting PHC and community based health services (CBHS). A policy

framework has been formulated to promote CBHS, using a PHC approach, in order to improve the DHS. This will become a formal resource for basic PHC services within the community (52).

The optimal role of HBCs consists of providing local outreach of health services where this is currently unavailable, and to create a link between the various service agencies and the households (20,28). This could be achieved by informing community members, bringing services to the community, and referring members of the community to other services e.g. abuse centres, feeding schemes and rehabilitation (20). Other task can include: carrying out health promotion and health development activities; providing psychosocial support; and transferring health and wellness skills to community members (9).

2.7 Adult Learning

"*Experiential Learning Theory (ELT) provides a holistic model of the learning process and multilinear model of adult development, both of which are consistent with what we know about how people learn, grow, and develop*" (32). Experiential learning is a concept related to adult learning, which is associated with practices and theories based on reflecting on experiences (64). "*The most prevalent understanding of experiential learning is based on reflection and a reflective thought and internal processing of the experience must take place in order for learning to occur*" (32). Reflection is described as "*active, persistent, and careful consideration of any belief or supposed form of knowledge in the light of the grounds that support it and the further conclusions to which it tends*" (65). Hence, the learner reflects on passed experiences, of which the knowledge is stored in their memories and afterwards transferred to new situations (66). The learner tries to make sense of their learning, by linking it to past or existing learning experiences so he/she can then transform it to guide future ideas and actions as well as prepare them to interpret future experiences (67, 68, 69).

Learning is most effective when people learn from others, e.g. getting exposed to someone else's ideas, and practicing new ideas and behaviours with others so the learner can improve his/her knowledge and apply this knowledge more easily (67). Further, practicing new skills

is also important. Therefore, new information is picked up quicker when the learner gets the opportunity to observe and practice skills (70).

2.8 Service Learning

Specific contexts shape an individual's experience in different ways as well as how the learner prepares for that specific experience (68). Whether the environment is challenging or supportive, it forces the learner to re-evaluate their thoughts and actions, which will improve their knowledge (67). As the learning process is taking place in the work environment, hence real life situations, an increase in transfer of skills is expected (70, 71, 73). It is therefore highly likely that the placement of students in a community setting enhances the student's understanding of the PHC approaches and of the client's social context. Collaboration with HBCs, who are familiar with the area, is expected to be beneficial for the student's learning experiences as individuals learn quicker through interacting with the environment (66). In addition, client assessment and management is done in a home setting, which will tackle service needs in under-resourced areas where services are lacking (22).

Service learning fits in well with the government's strategies, which aim to collaborate with institutions of higher education (74). As the Health Care 2010 also states "*the primary health care approach requires the Department to engage in partnerships with training institutions to ensure that appropriate, relevant and sustainable training opportunities are available*" (53). It further states that the DoH has identified the Health Science Faculties of Universities and Technikons as important partners in providing health care as they are required to play a major role in restructuring the tertiary health institutions (53).

2.9 Conclusion

The introduction of community based workers (CBW) in general, and HBCs in particular, has resulted in an increase of care for housebound patients. The HBCs have become an integral part of PHC. However, their training is not yet standardised throughout South Africa and no structure is in place to provide on-going professional support or continuing education. Adult

learning is enhanced by experiential learning, for which the structured contact with the physiotherapy students may result in improved skills and knowledge for both students and HBCs.

3 Chapter 3: Methodology

3.1 Research Design

A quasi-experimental design was used to detect the impact of physiotherapy students on the performance of home based carers.

3.2 Sampling

Two organisations that have agreed to accept UCT students for 2014 were included in the study, and two additional organisations were approached as a comparison. The selected organisations were already in partnership with the UCT Division of Physiotherapy. Fifty home based carers were included in the study via random selection from the 4 organisations. 12 students placed at the community placements as part of their clinical rotation agreed to participate in the study. Clients were randomly selected from the clients' list to participate in the study.

3.2.1 Sample size

Jephtah and Obery (2011) assessed the skills of HBCs during treatment of their clients by using the National Guidelines for Home-based Care as their instrument [71](61). This audit found a mean of 5.5 (SD=3.02) interventions given by the HBCs. Based on these parameters, we estimated that a sample size of 17 participants in each group was necessary to detect a significant difference between the two groups (with a .05 significance level and a power level of 90%).

To compensate for possible attrition, a sample of 25 HBCs was selected for each group. As each HBC was asked to provide data on two of their clients, the sample size of clients was 50 per group, i.e. 100 in total.

3.2.2 Inclusion and exclusion criteria

Organisations within the Gugulethu, New Crossroads, Nyanga and Bonteheuwel areas which are contracted by the Department of Health to provide home based care were included in the study. All permanently employed HBCs were eligible for inclusion.

HBCs that had worked with physiotherapy students in the past, and could have therefore gained rehabilitation skills and knowledge prior to the study, were excluded.

3.3 Procedure

Ethical approval was obtained from the Human Research Ethics Committee (Appendix 1). The HBC organisations in the Gugulethu, New Crossroads, Nyanga and Bonteheuwel areas were contacted telephonically to explain the purpose of the study and to establish approval for HBCs' participation. If participation was allowed, appointments were made to explain the research and procedures in detail.

The researcher met the HBCs at their main office in the community before they commenced their daily routine. The study was explained and individual consent for participation was obtained. The home based care coordinators from each of the four organisations provided a list of HBCs that were currently employed, which gave us a total of 130 HBCs. Two of the organisations were allocated to the control group and the other two were allocated to the experimental group. The names of all HBCs were put in a hat, 25 HBCs per group were randomly selected via lottery, with nine from organisation A, 16 from organisation B, 11 from organisation C and 14 from organisation D. There were 12 students placed at a community placement during the research. The community placements formed part of their physiotherapy clinical rotation. Students were randomly allocated to the 25 HBCs in the experimental group, whereas the control group did not have students allocated to them. The students rotated among the HBCs throughout the five weeks of their clinical rotation. Four clients were randomly selected via lottery from the HBC's client list.
Physiotherapists, not associated with the university and blinded to the group allocation, were enrolled as research assistants, to assess the control and experimental group. The research assistants were trained on how to use the National Guidelines checklist. Inter rater reliability was ensured by having the research assistants observe clients together and agree on what they observed.

Each HBC underwent two observational assessments by the research assistants. These assessments took place at the end of the five week clinical block. Four clients were randomly

selected via lottery from the HBC's client list. The research assistants accompanied two HBCs to four clients' homes and observed client management. Client's consent, in the language of choice, was obtained. The consent forms were translated to isiXhosa and an interpreter was used when necessary. Performance of the HBC was assessed by using the checklist and in the absence of the physiotherapy students.

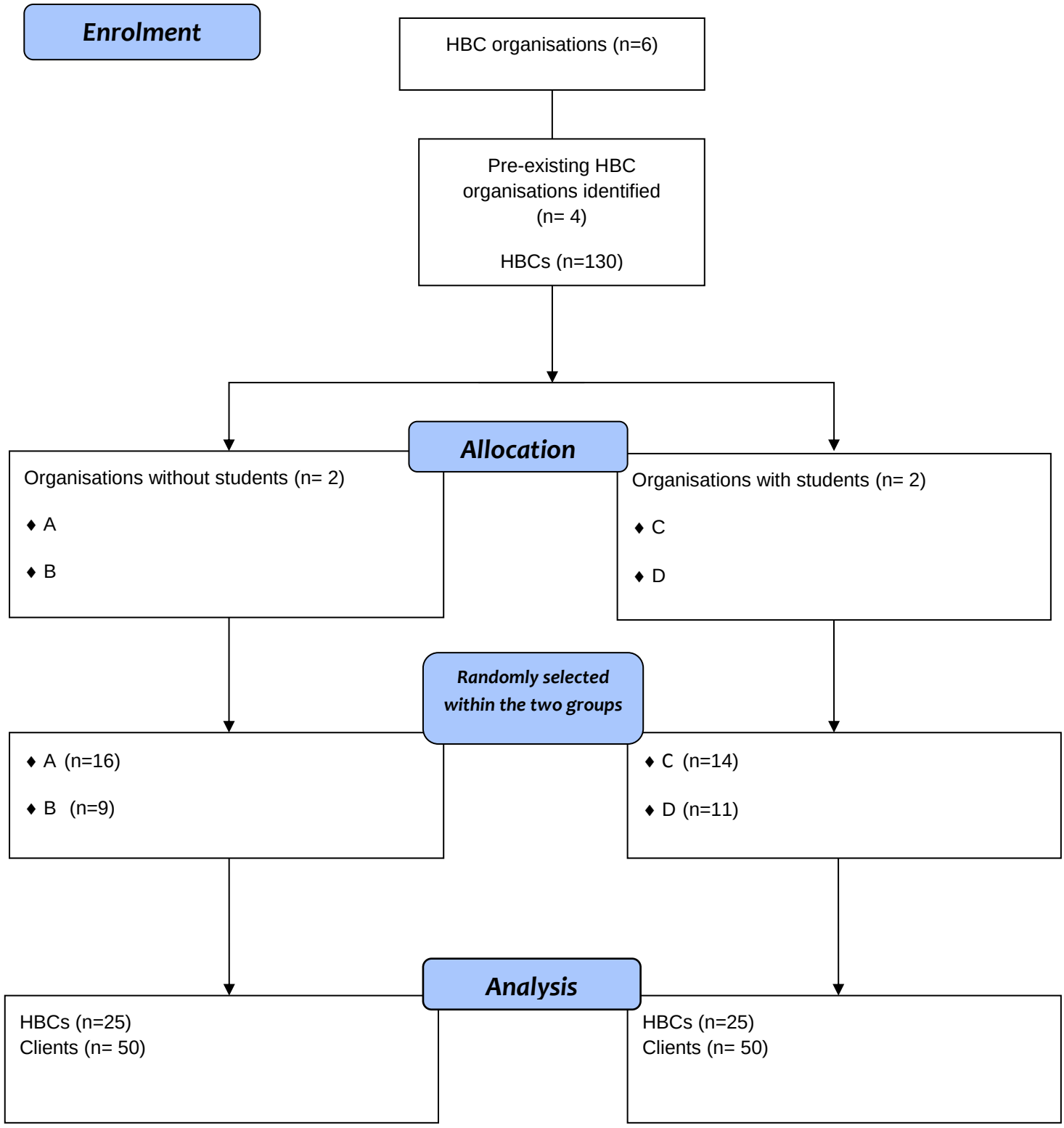
The aim of this observation was to establish the maximum level of interventions used by the HBCs while performing his or her usual routine.

At the end of the five week clinical block, both HBC and students were asked to report on their experience. The HBC completed a hard copy questionnaire, and the students were asked to complete an online questionnaire, which was developed using Survey Monkey and sent them via email.

3.4 Research Setting

The study was conducted in two under resourced communities on the Cape Flats, Western Cape. The Cape Flats historically was created after the forced removals from black and coloured people from so-called white areas. Bonteheuwel was primarily reserved for the coloured community with council brick houses, whereas, Nyanga, Gugulethu and New Cross Roads is a larger African black community with houses ranging from backyard dwellings to informal settlements.

Figure 1: Flow diagram of recruitment



3.5 Instrumentation

The following self-designed questionnaires were developed:

3.5.1 Demographic and training information of the home based carers

This questionnaire, which was completed by the HBCs, included demographic and training information such as length and content of training, preferred method of training, current job description and activities performed by the HBCs during their home visits (Appendix 2). The HBC needed to tick the boxes next to the topics they received during training. These pre-structured boxes were based on the exit level outcomes for home based care defined by the South African Qualifications Authority (Appendix 3) and the existing training curricular for community based rehabilitation workers.

3.5.2 Demographic and health information of the clients

Another questionnaire was developed to gather clients' related information. This questionnaire was also completed by the HBCs and included demographic and medical information for each client they visited while being accompanied by the research assistant (Appendix 4). The HBC had to indicate which of the possible main problems, based on the ICF framework, were applicable for their clients.

3.5.3 Observational checklist of the tasks of the home based carers

The checklist developed by the National Guidelines on Home Based Care and Community based Care (DoH 2001) was used to assess the type of interventions used during client management (71). These guidelines were developed to assess the provision of community and home care (DoH 2001) (Appendix 5).

The checklist includes different categories and descriptors thereof, as shown below and in appendix 4:

- Personal needs
  - Physical/Biological Needs
  - Psychological Needs
- Environmental assessment
  - Physical Environment
  - Psychological Environment

        - Social Environment
    - Lifestyle
        - Nutrition
        - Exercise and Rest
        - Personal Habits and Sexuality
        - Recreation
    - Activities of Daily Living
        - Mobility
        - Positioning
        - Locomotion
        - Transfers
        - Dressing
        - Washing
        - Exercise
        - Feeding
        - Toileting
        - Continence
        - Hearing
        - Vision
        - Speech
    - Core Home/Community Based Care Activities
        - Care/Intervention
        - Provision of Essential Medicine
        - Provision of Basic Assistive and Medical devices
        - Health Promotion and Education

This checklist was filled in by the research assistant in order to record the interventions given by the HBCs at the end of the five week clinical block. The scoring was dichotomous: did the HBC perform the task or not? The self-developed questionnaire was piloted by Jephthah and Obery (Physiotherapy undergraduate research project 2011) and found to be valid in describing the activities performed by HBCs. The reliability and validity of this checklist was established during a pilot study, which included 20 HBCs who were not involved in the main

study, recruited from three organisations, and 49 of their clients. The data were analysed using descriptive statistics and presented in frequency tables. Non-parametric analyses were done to assess differences between the organisations. Results from this pilot study made us modify the Activities of Daily Living domain, as clarification and concordance was necessary with regards to content of this domain. The following changes were made:

1) Four questions were added to the 'Mobility' section:

Did the HBC:

- assist patient rolling in bed?
- assist patient to get up in bed?
- assist patient getting up into wheelchair?
- Readjust mobility aids to improve mobility if necessary?

2) 'Positioning' was added as a separate section and consisted of two questions:

Did the HBC:

- correct or adjust position of patient in bed?
- correct or adjust position of patient in chair or wheelchair?

3) Another section that was added was 'Exercise' which covered the following three questions:

Did the HBC:

- prescribe/demonstrate any exercises for strengthening or stretching?
- perform any passive movements?
- demonstrate/perform any active-assisted exercises?

4) One question was added to 'Feeding':

Did the HBC provide an assistive device or a build-up utensil?

5) Finally, one question was also added to the 'Toileting' section:

Did the HBC provide assistive device e.g. raised toilet seat?"

3.5.4 Attitudes towards the placing of students – home based carers and students

To assess the attitudes of the HBCs towards collaboration with students (Appendix 6), and the attitudes of the students towards their community placement (Appendix 7), two extra questionnaires were developed. Both questionnaires contained close-ended questions. The students were asked to fill in their questionnaire electronically, by using the free version of Survey Monkey. The content and face validity of these questionnaires was established by a panel of two experts, who were both physiotherapists with extensive experience in both research and education.

Questionnaires that needed to be filled in by the HBCs were translated into isi-Xhosa by using forward and backward translation processes.

3.5.5 "Intervention"

The "intervention" assessed was the collaboration between HBCs and physiotherapy students. During the physiotherapy clinical rotation, the students accompany HBCs on their home visits and assist with managing the client's basic day to day needs. Students use the ICF framework to plan and implement client assessments and analyse the interactions between impairments, functional limitations and participation restrictions, taking into consideration the client's personal factors and environment (Appendix 8). Within the experimental group, it was expected that rehabilitation skills are transferred from student to HBC.

3.5.6 Reliability and Validity

It is assumed that the checklist used has content and face validity as it is based on the National Guidelines for Home/Community based care and have been used in other studies using a similar setting.

Inter- and intra-rater reliability was achieved by training the research assistants and allowing collaboration between research assistants during assessment of HBCs to ensure that there was agreement when recording observed interventions.

3.6 Statistical analysis and management

The data was entered into an Excel spreadsheet and exported to Statistica version 11.0 (72) for analysis. Post coding was applied on the open-ended questionnaires, whereas descriptive statistics were used on the close-ended questionnaires and electronic survey. The Chi-Square test (or the Fisher's exact test when values per cell were less than five) was used to determine association between gender or training content with either the experimental or control group. The t-test or Mann Whitney U test (if data were ordinal or not normally distributed) was used to assess differences between the experimental and control group with regard to age, highest grade of education, length of career, training length and scores on the Observational Checklist. The age of the clients was also compared using the t-test, whereas the Chi-square test was used to determine association between the top four diagnoses; the functional problems and the group. The Mann Whitney U test was used to compare the rank order of the content areas taught in training and to compare the baseline levels of the overall domains.

3.7 Ethical Considerations

This study is in accordance with the Declaration of Helsinki (Seoul, 2008). The purpose of the study was explained to all participants and voluntary participation was emphasised. Informed consent was obtained from all the participants (Appendices 9 and 10). Participants were assured that there was no risk to participating in the study. The performance checklists were considered confidential and the results were not going to be shared with their managers. The names of the organisations, HBCs and all participants remained anonymous throughout the study and were only known to the researcher. The participants had the right to withdraw from the study at any given point, without any consequence. No direct benefits were given to participants. Further, this study was risk-free as no physical or psychological harm was reported. However, if at any stage the interventions were thought to be unsafe, the independent observers would intervene and referred the client to specialised treatment centres. The individual observers would have reported any abuse or notifiable conditions to the appropriate authorities, if this was not already done by the HBC. The results of this study were not shared with the individual organisations.

As students were not present during the observations of the HBCs, their performance was not assessed by the independent observer.

4 Chapter 4: Results

The sample size included 50 HBCs from four organisations (n: organisation A = nine; organisation B = 16; organisation C = 11; and organisation D = 14), which were equally divided into an experimental group (n= 25) exposed to physiotherapy students and a non-exposed control group (n= 25) (see **Error! Reference source not found.**). This result section will first compare these two groups with regards to demographic details and training variables. Afterwards, comparison of the performance of both groups within the clinical/home setting will be presented.

4.1 Home based carers

Within this study population, the predominant gender was female, with n=47. The three included males were all allocated to the control group, however, due to the small sample size, no gender-group association was seen when analysing data with the Fisher's exact test (p=0.117). Other demographic and training details are presented in Table 1. The overall mean age of the HBCs was 40.88 years (SD= 11.13 years and range 20-67 years), with no significant difference between the groups (p= 0.079). Further, no significant difference between groups with regards to highest level of qualification was found (p= 0.238), with the overall grade ranging from Grade 7 to Grade 12 with a median of Grade 11. For more details, see Table 1.

The overall mean length of employment in the organisation was 59.1 months (SD = 41.7 months and range 1- 216 months). Whereas the overall mean of HBC training time was 23 months (SD=20.9 months, range 2-72 months). As can be seen in Figure 2 below, a discrepancy between duration of training can be found, with 21 of the HBCs who received less than ten months of training and 17 who received more than 48 months of training. A significant difference in the mean career length (p= 0.006) and length of training (p= 0.007) between the groups was observed (see Table 1).

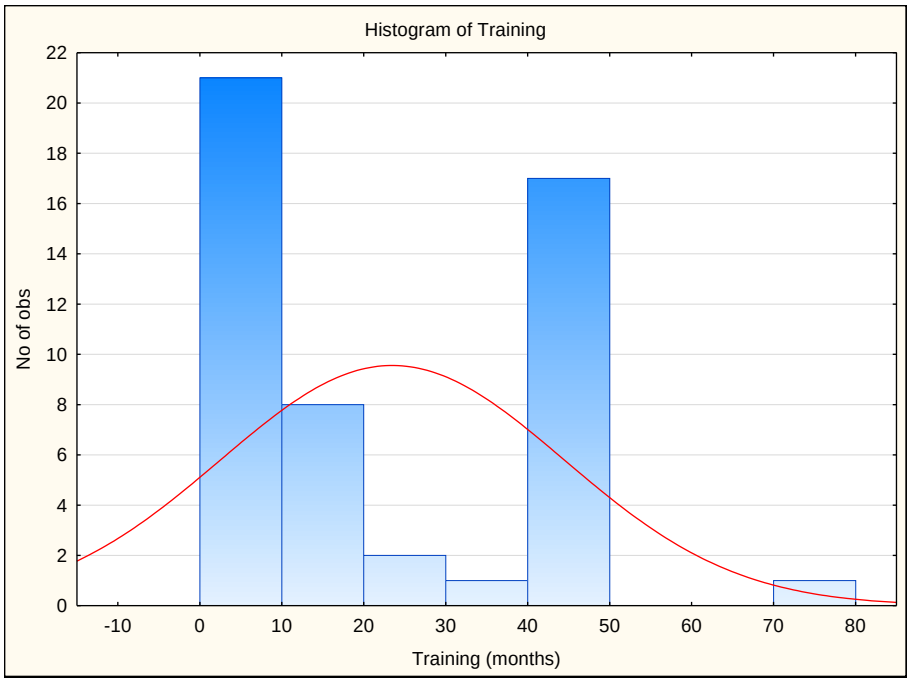


Figure 2: Histogram of number of months of training

Table 1: Comparison of control (n=25) and experimental (n=25) groups with regard to age, education, career length and training received.

	Control	Experimental					
	Mean	Mean	Std.Dev	Std.Dev	t-value	df	p
Age	43.6	38.1	10.7	11.1	1.8	48	0.079
Highest grade *	11.1	10.6	1.0	1.7	1.2	39	0.238
	Rank sum	Rank Sum			Z		p
Career length months	778	497			2.74		0.006
Training months	773	502			2.68		0.007

*Calculated with separate variances as F value was significant.

When investigating the questionnaires with regards to HBCs' training content, it was evident that all respondents report to have received training in HIV/AIDS management (see Figure 3). The other most common topics in their training were first aid (n= 49) and hygiene (n= 49).

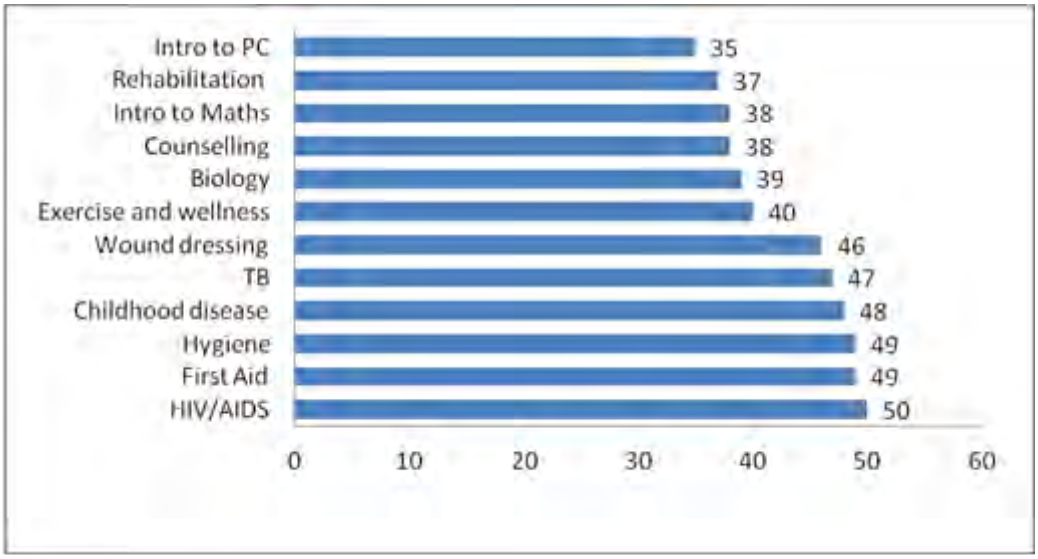


Figure 3: Number of respondents reporting training in the different areas (n=50)

When analysing the training content between the groups, using the Chi-square test, no significant differences were seen, except for wound care (p=.037) and introduction to mathematics (p=.026), which were taught less in the experimental group (see Table 2 and Table 3). The median number of training content areas in the control group was 12, which is the maximum, whereas a median of ten was seen for the experimental group (Figure 4). However, when analysing these results further with the Mann Whitney U, no significant difference were found between the groups (p=0.207).

Table 2: Association between groups (n=50)

	No wound dressing	Wound dressing included	Totals
Control	0	25	25
	0.00%	100.00%	
Experimental	4	21	25
	16.00%	84.00%	
All Groups	4	46	50

Pearson Chi-square 4.348 df=1 p=.037

Table 3: Association between group and training in mathematics (n=50)

	No intro to maths	Intro to maths	Totals
Control	2	23	25
	8.00%	92.00%	
Experimental	10	15	25
	40.00%	60.00%	
Totals	12	38	50

Pearson Chi-square 7.018 df=1 p=.008

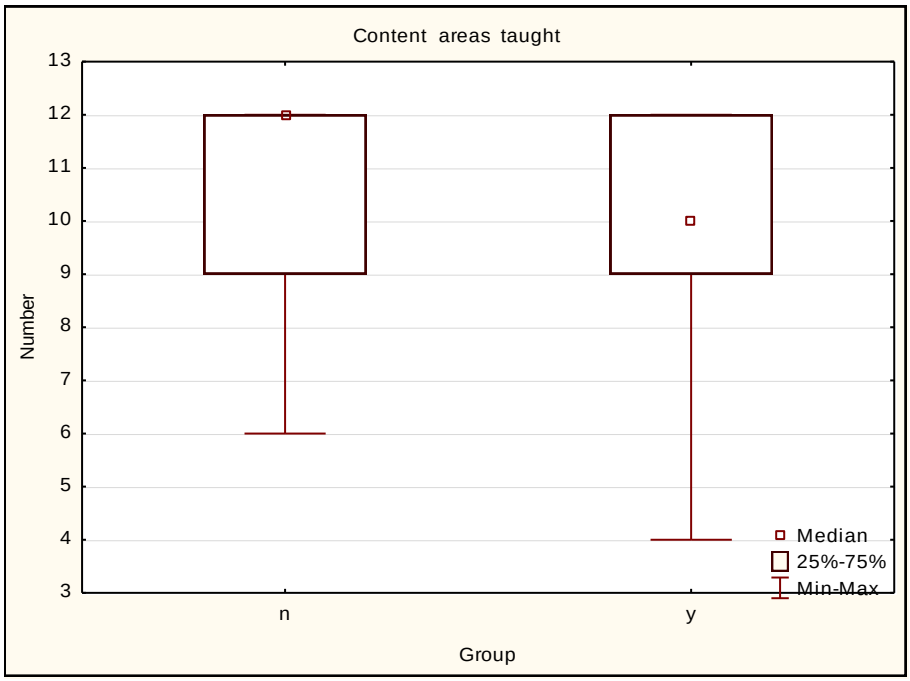


Figure 4: Median number of total content areas taught (n=50 respondents, number of content areas = 12) (n=Control, y=Experimental)

Table 4: Difference in rank ordering of number of content areas between groups.

	Control	Experimental	U	Z	p-value
Total number	703.0	572.0	247.0	1.261	0.207

4.2 Clients

A total of 100 clients, with a mean age of 63.32 years (SD=14.40 years, range 24-98 years), were interviewed (n= 50 per group). No significant difference between the control group (mean age= 64.6 years, SD=15.6) and experimental group (mean age= 62.0 years, SD=13.2) was found with regards to age (t=0.902, p=0.369), see Figure 5.

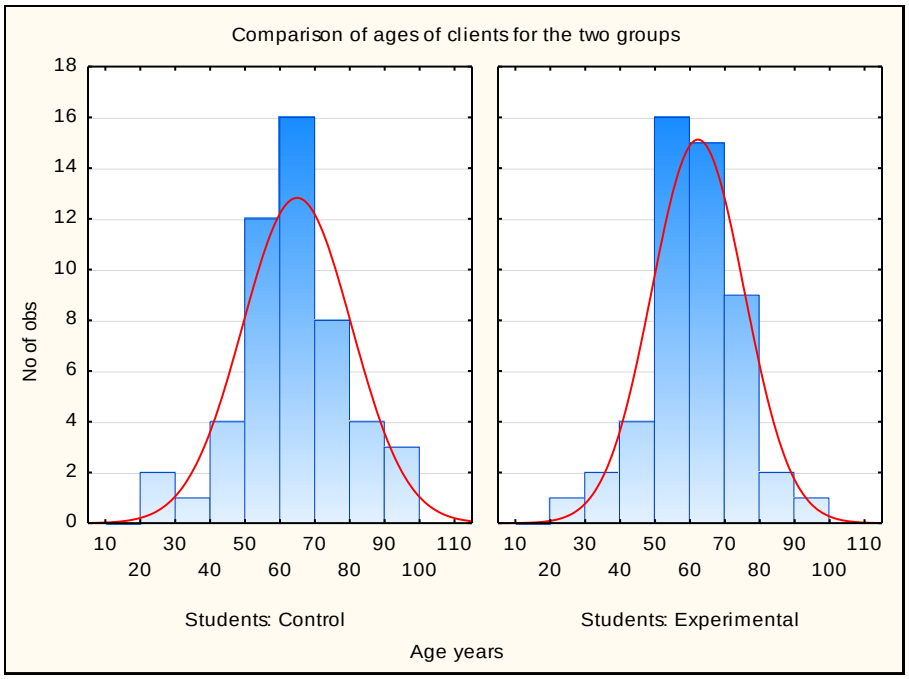


Figure 5: Comparison of ages of clients between the Control and Experimental groups

The four most common disorders in HBC clients were Rheumatoid Arthritis (RA)/Osteoarthritis (OA) (n=33); Hypertension (n=30); Cerebrovascular Accident (CVA)(n=27) and Diabetes Mellitus (n=22). However, a wide variety of diagnosis was reported (see Figure 6). No associations were found between the four most common diagnoses and the HBC group. Details with regards to clients' diagnosis can be found in Table 5, Table 6, Table 7 and Table 8.

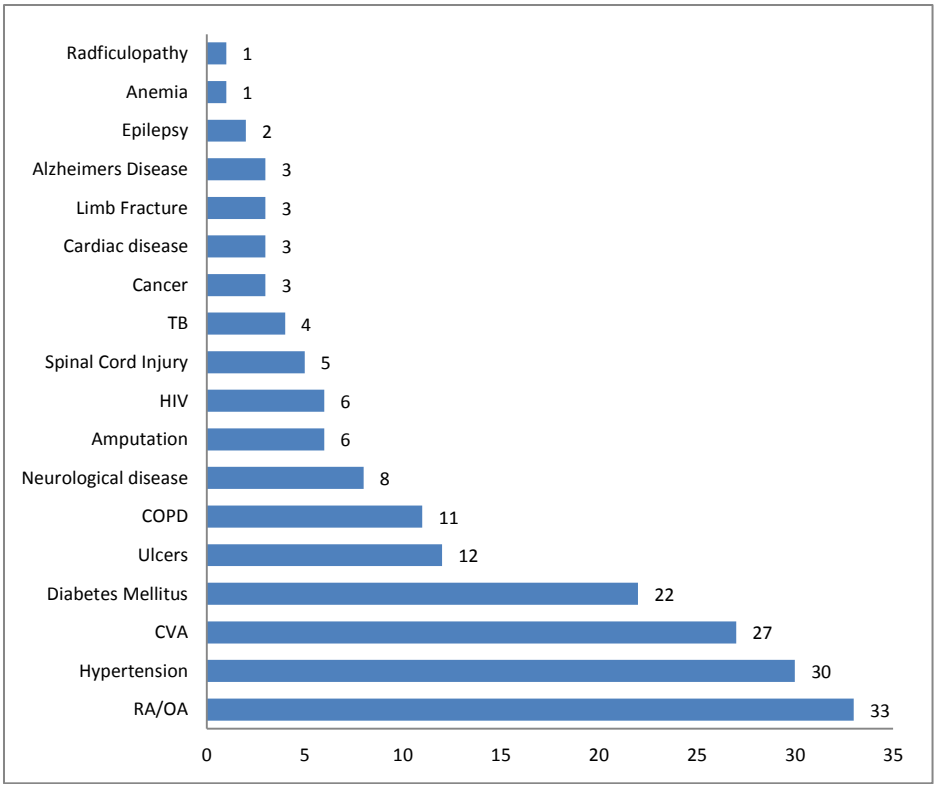


Figure 6: The frequency of conditions of clients (n=174, number of clients=100)

Table 5: Association between HBCs, working with and without students, and the number of clients with RA/OA

	RA/OA - 0	RA/OA - 1	Row – Totals
Control	35	15	50
Experimental	32	18	50
Totals	67	33	100

Pearson Chi-square 0.4 df=1 p= 0.52

Table 6: Association between HBCs, working with and without students, and the number of patients with hypertension

	HPT - 0	HPT - 1	Row - Totals
Control	35	15	50
Experimental	35	15	50
Totals	70	30	100

Pearson Chi-square 0.0 df=1 p=1.0

Table 7: Association between HBCs, working with and without students, and the number of patients with CVA

	CVA - 0	CVA - 1	Row - Totals
Control	39	11	50
Experimental	34	16	50
Totals	73	27	100

Pearson Chi-sqare 1.268 df=1 p=0.26

Table 8: Association between HBCs working with and without students and the number of patients with Diabetes Mellitus

	Diabetes Mellitus - 0	Diabetes Mellitus - 1	Row - Totals

Control	43	7	50
Experimental	35	15	50
Totals	78	22	100

Pearson Chi-square 3.73 df=1 p=0.53

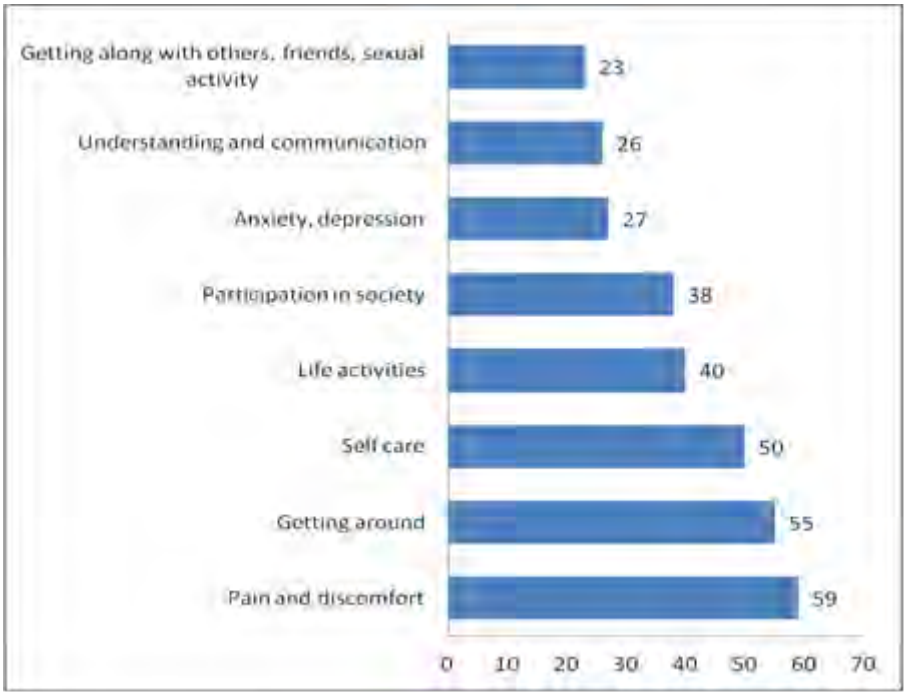


Figure 7: Frequency of main problems of clients (number of problems=318, number of clients=100)

Client's main physical and psychological problems were pain and discomfort (n=59), getting around (n=55) and self care (n=50) as the top three, which is shown in Figure 7.

In summary the clients from both groups were equal in age, diagnosis and main problems.

4.3 Performance of home based carers

Performance of the HBCs was assessed using the Observational checklist. The scores based on the checklist for all visits are presented in Figure 8. The maximum achievable score was 130 including all categories. The overall mean score was 9.8 (SD=6.2, Range =1-32).

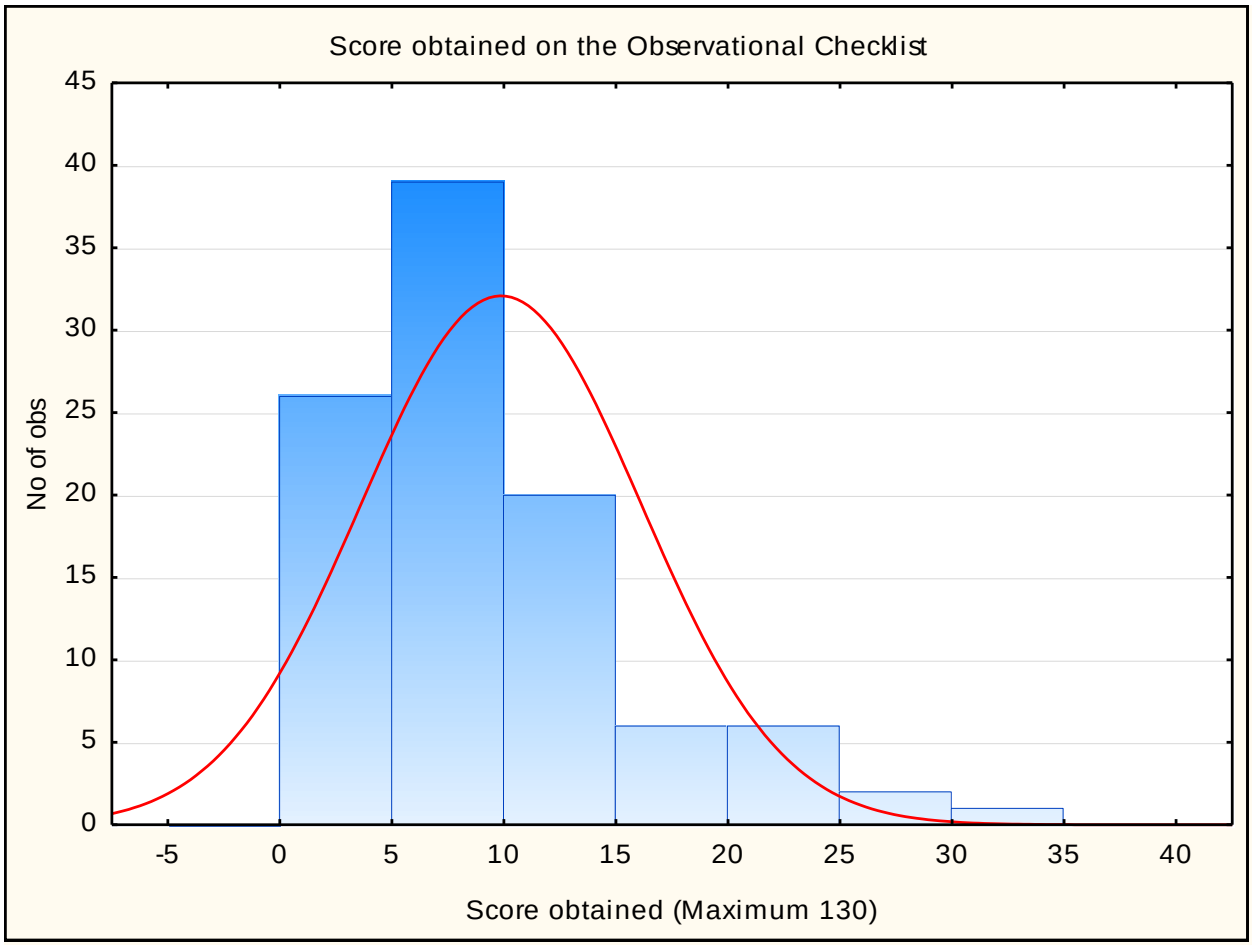


Figure 8: Scores on the Observational Checklist obtained for all visits (N=100 visits =50 HBC)

In Figure 9, a scatterplot presents the scores obtained by the HBC during the first and second observation of the research assistants. The scores were found reliable as a high correlation between the two sets of scores were seen (rho = .46, p>.001).

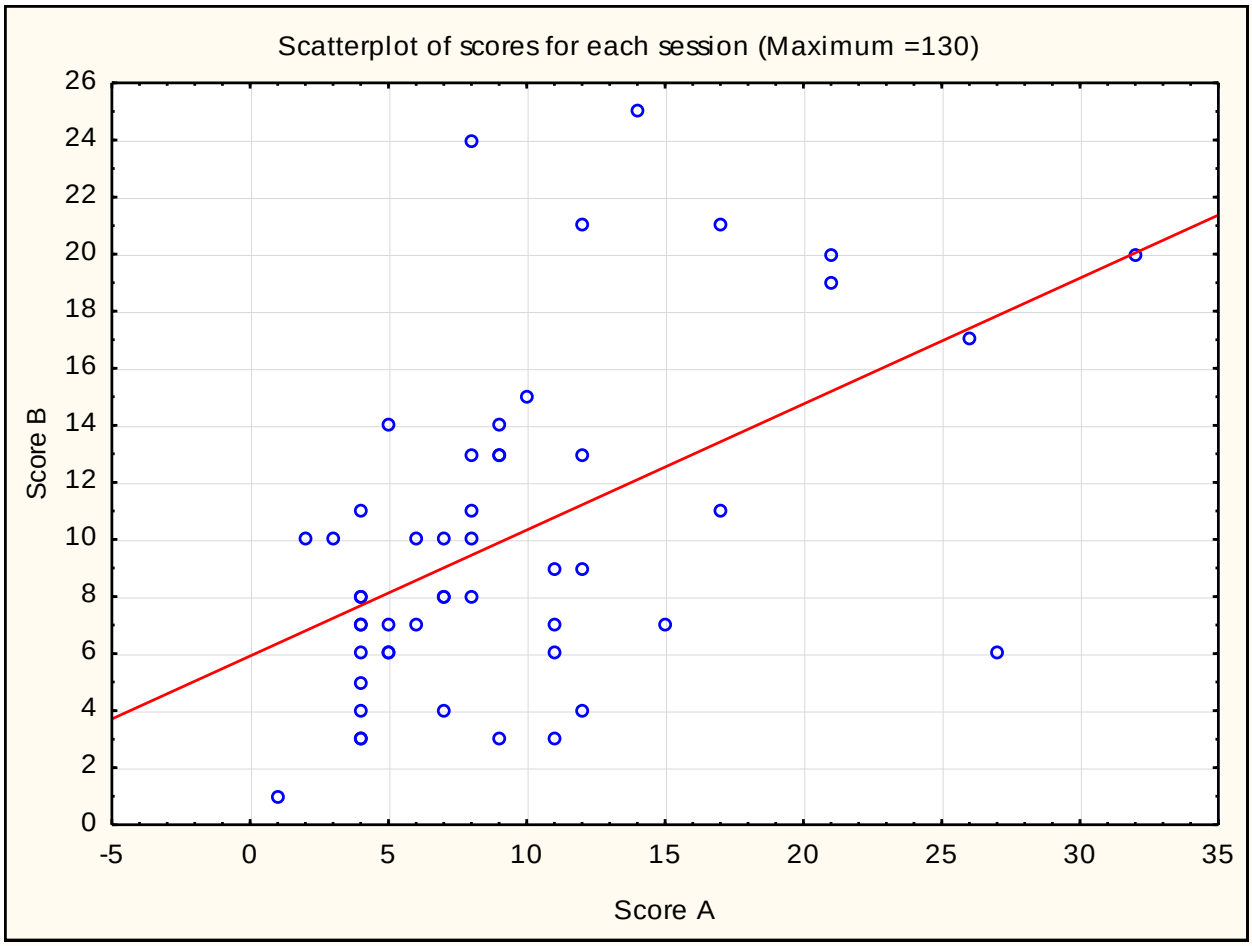


Figure 9: Correlation of scores of items from the Observational Checklist on the two clients observed (N=50 HBC)

The interventions conducted by the HBCs were categorised into broad areas as per the National Guidelines on Home-Based Care and Community Based Care checklist (Appendix 4). These categories were as followed: personal needs, environmental needs, lifestyle, activities of daily living (ADL) and core home/community based care activities.

Figures 10, 11, 12, 13 and 14 break down each of these five categories, indicating which interventions are performed within the control and experimantel group.

As seen in Figure 10, the experimental group did not evaluate touch sensation, nor did it provide any interventions with regards to coping mechanisms. This group also failed to provide interventions regarding stress relief and abuse prevention (see Figure 11). However, they did cover all aspects within the category 'life style' (Figure 12). When having a closer look at the category 'ADL', it is evident that the experimental group did not cover interventions for independent feeding, mobility aids, taking clients outside and use of toilet

(Figure 13). And finally, the experimental group also failed to provide basic medication or assistive devices and interventions on the toxic side effects of medication (Figure 14).

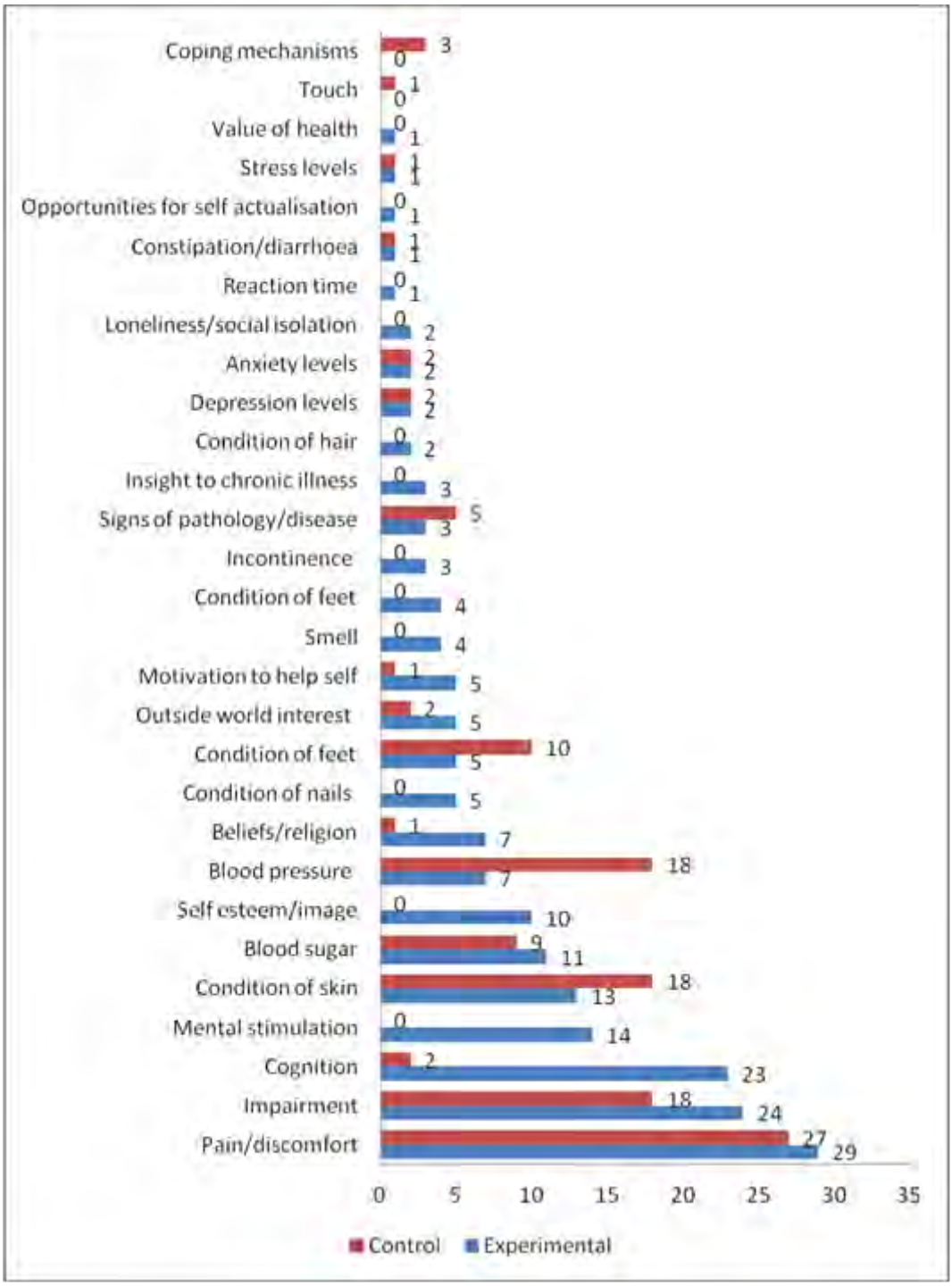


Figure 10: Score for physical/biological and psychological needs

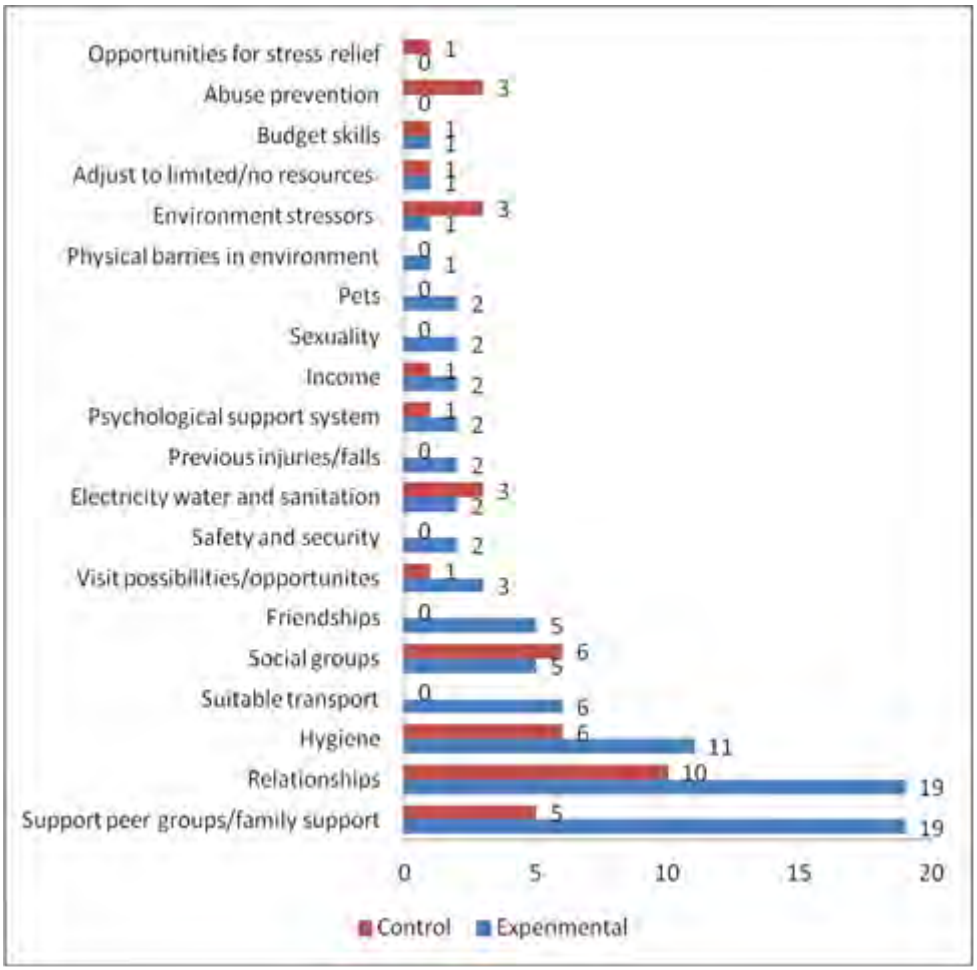


Figure 11: Score for physical, psychological and social environment

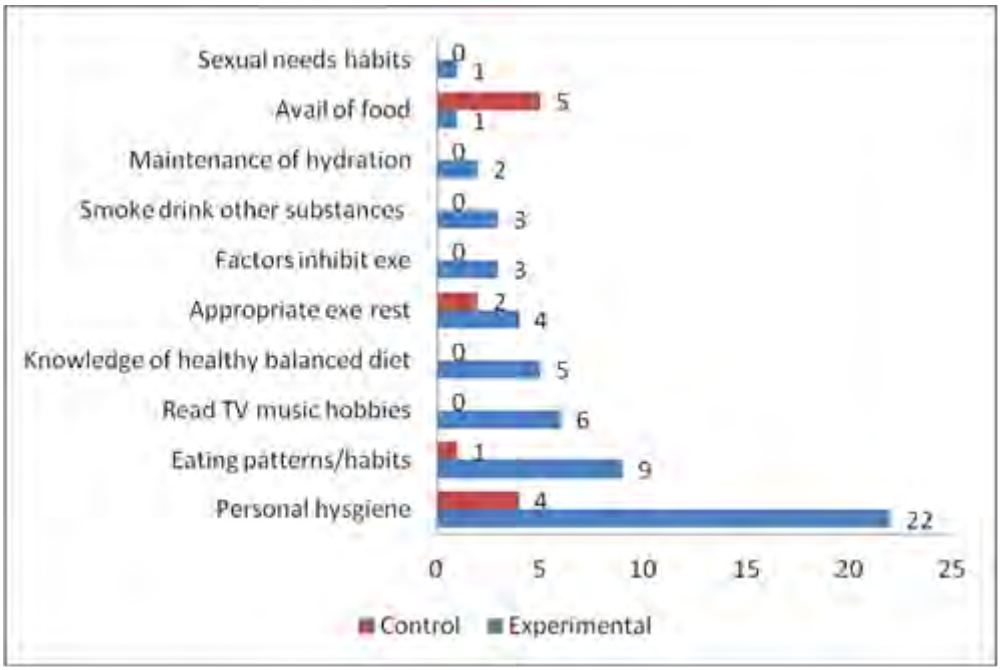


Figure 12: Score for lifestyle (nutrition, exercise, rest, personal habits and sexuality, recreation)

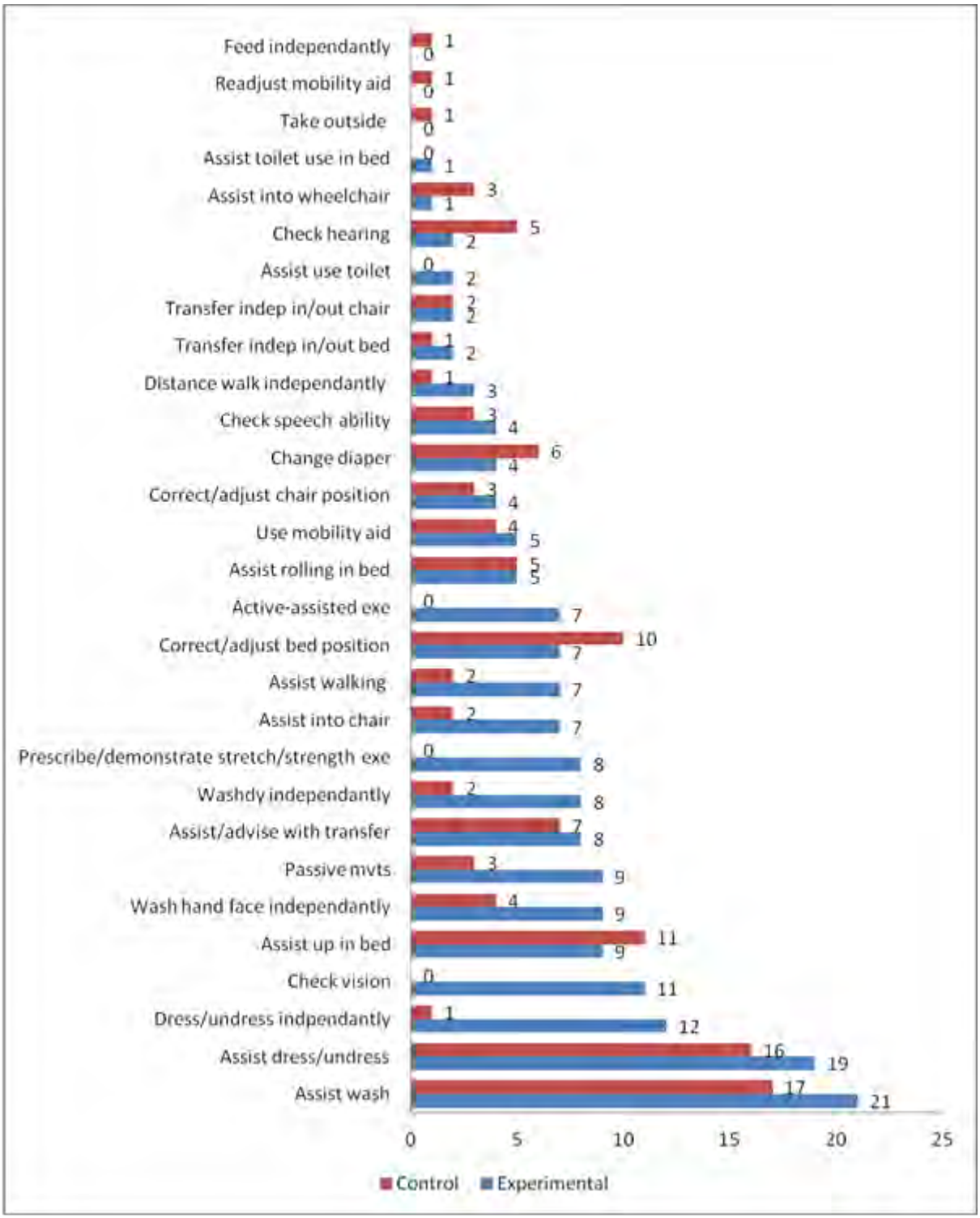


Figure 13: Score for ADL (mobility, positioning, locomotion, transfer, etc.)

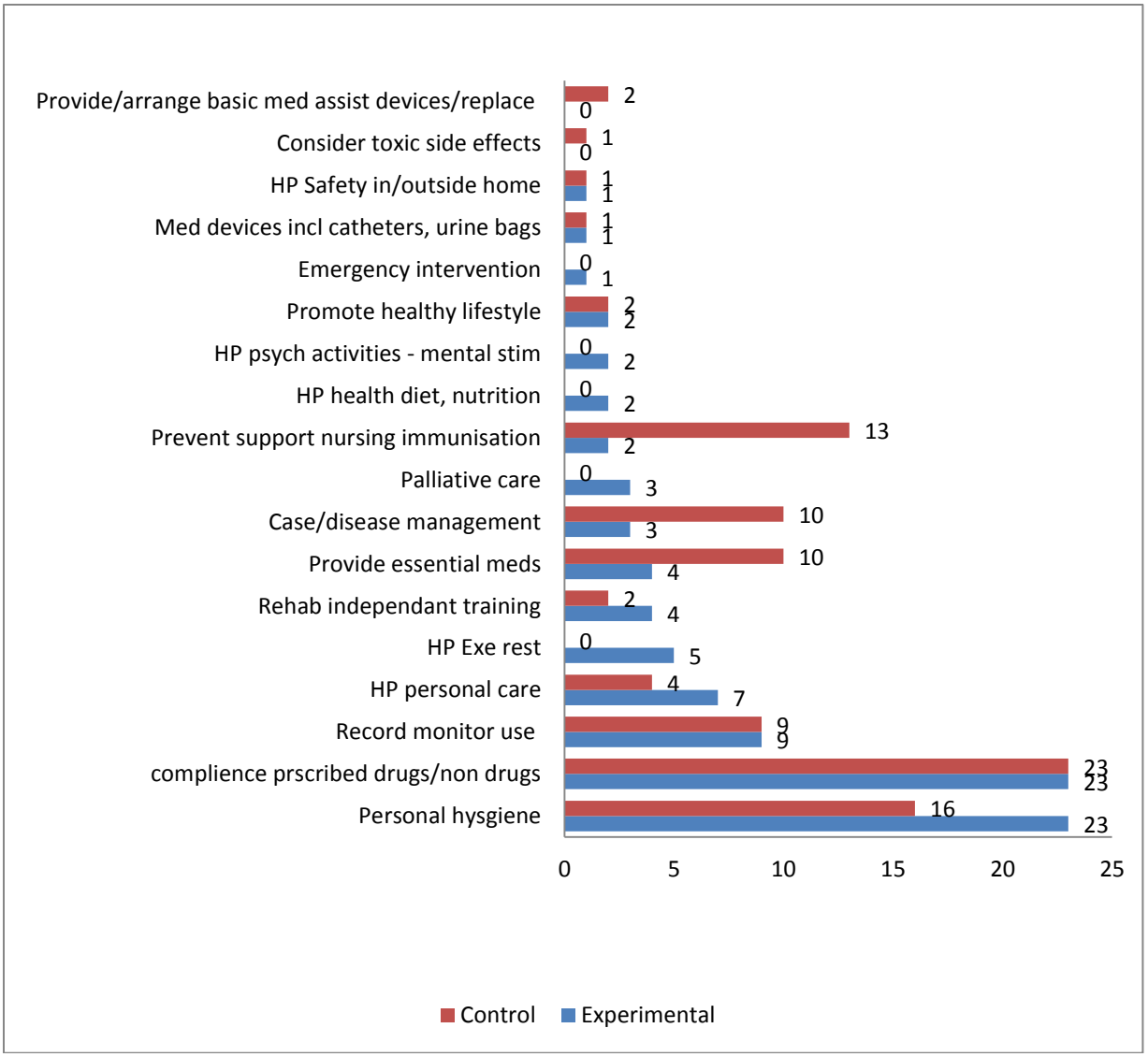


Figure 14: Score for Core Home/Community-Based Care Activities (provision of medication, assistive devices and health promotion)

Figure 15: Categorised scatterplot of length of training in months against score on the Observational Chart (N=50)

In Figure 15, the mean Observation Checklist Scores for each HBC are plotted against the months of training for both groups. The Spearman's rank correlation was rho=.04 (p=.780) for the entire group which indicated that length of training was not associated with a higher score on the checklist. Further, there was also no correlation between training length and performance, based on the checklist score, in the control group (rho=.03, p=.895). However, in the experimental group training was correlated with performance (rho=.40, p=.049). When comparing scores between the groups, it can be seen that the highest score in the control group was 14, whereas nine of the HBCs in the experimental group scored higher, with a highest score of 26.

For every category of the checklist, scores were compared between the control and experimental group (see Table 9 and Figures 16, 17, 18, 19 and 20). The experimental group had a higher median in the 'personal needs', 'environmental needs', 'lifestyle' and 'ADL'

categories. Whereas in the 'CHCBC' category (Figure 20) the median score was the same in both groups (median = 2, range=0-5)

Table 9: Comparison of median score achieved and maximum possible score

	Control			Experimental					
	Med	Min	Max	Med	Min	Max	Sum	Total Possible	% used
Total Personal Needs	2	0	7	3	0	11	309	30*100	10.3
Total Environment	1	0	5	1.5	0	5	128	28*100	4.6
Total Lifestyle	0	0	2	1	0	5	68	14*100	4.9
Total ADL	0	0	11	3	0	10	288	36*100	8.0
Total CHCBC activities	2	0	5	2	0	5	186	22*100	8.5

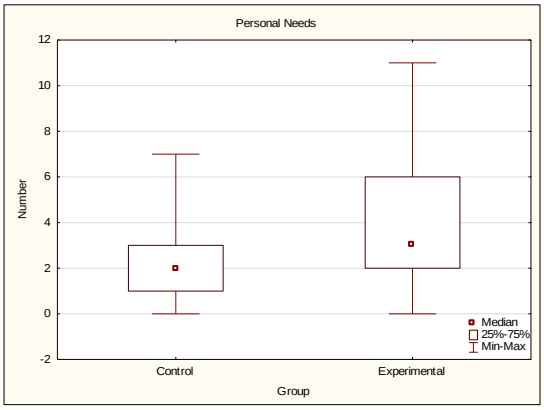


Figure 16: Number of items addressed in the two groups in the Personal Needs category

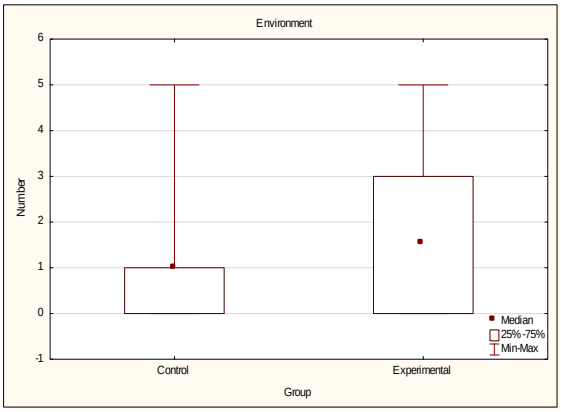


Figure 17: Number of items addressed in the two groups in the Environmental category

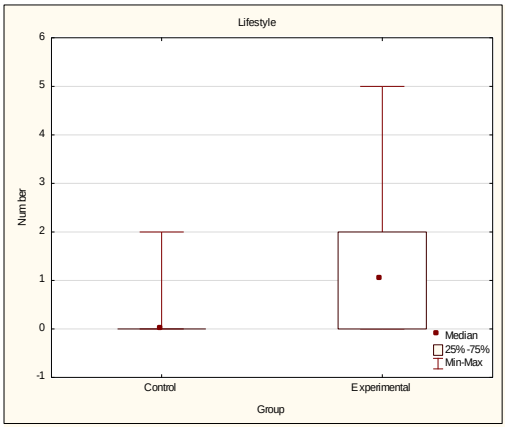


Figure 18: Number of items addressed in the two groups in the Lifestyle category

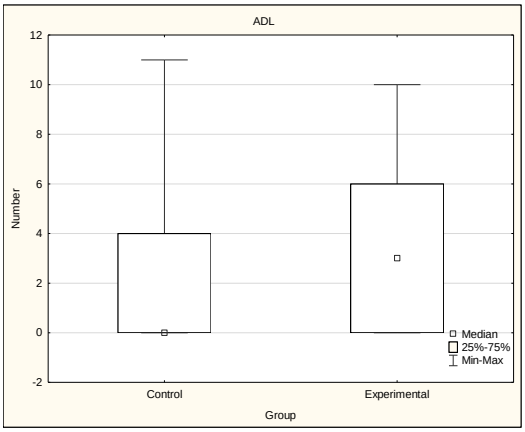


Figure 19: Number of items addressed between in the two groups in the ADL category

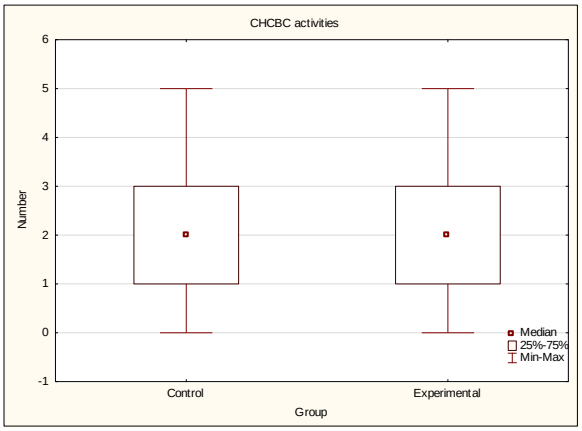


Figure 20: Number of items addressed in the two groups in the CHCBC category

As can be seen in Table 10, the experimental group had significantly higher rank sum scores in every category of intervention (total personal needs p = 0.006, total environment needs p= 0.002, total lifestyle needs = p< 0.001 and total ADL p = 0.025), except for total CHCBC (p= 0.743).

Table 10: Comparison of ranking of different domains.

	Rank Sum - Control	Rank Sum - Experimental	U	Z – adjusted	p-value
Total Personal Needs	2133.0	2917.0	858.0	-2.73	0.006
Total Environment Needs	2089.0	2961.0	814.0	-3.13	0.002
Total Lifestyle Needs	1961.0	3089.0	686.0	-4.45	0.000
Total ADL	2210.5	2839.5	935.5	-2.25	0.025
Total CHCBC activities	2571.5	2478.5	1203.5	0.33	0.743

4.4 Students' experiences of working with home based carers

Although all students placed at a community placement during our research received an invite to complete the questionnaire presented in Table 11 and Appendix 6, only nine of the 12 students replied. Responses were post coded to create themes. As presented in Table 11, eight students reported a positive contribution of the HBCs with regards to their understanding of the community and clients. Further, working with HBCs was found to be a positive experience for seven students.

Overall, the students were supportive of this community programme, which can be seen in the positive answers in every theme, except for the theme 'I learned from the HBC', which had a higher neutral response rate.

Table 11: Physiotherapy students' experiences of working with home based carers

Statements	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Working with home based carers was a good experience	0	0	2	6	1
I felt unprepared to work with home based carers	1	5	2	1	0
I learned from the home based carers	0	2	4	1	2
I felt unsafe with the home based carers in the community	1	5	0	3	0
Community block was a poor learning experience	4	3	2	0	0
The home based carers contributed to my understanding of the community, clients and their conditions	0	0	1	5	3

4.5 Home based carers' experiences of working with students

Of the 25 HBCs in the experimental group, only 20 completed the close-ended questionnaire (see Table 12 and Appendix 6). Table 12 shows the answers provided by the HBCs. Sixteen of the 20 HBCs who completed the questionnaire most strongly agree that it was a good experience working with physiotherapy students, that they learnt from the students and that the students contributed to their understanding of the clients and their conditions. Even more HBCs strongly agreed that they learned from the students.

Table 12: Home based carers' experiences of working with physiotherapy students (n=20)

Statements	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Working with physiotherapy students was a good experience	0	0	1	3	16
I felt unprepared to work with the students	11	7	1	1	0
I learned from the students	0	0	1	1	18
Community block was a poor learning experience	10	6	3	1	0
The student contributed to my understanding of the clients and their conditions	0	1	0	3	16

4.6 Summary of results

In summary, the sample group consisted predominantly of females with a mean age 40.88 years with a median of Grade 11. There were no significant differences in gender or age between the experimental and control group. However, a significant difference in the mean career length and length of training was found between the groups. Although the content of training was similar across the four organisations with HIV/AIDS management covered by all, the control group was more exposed to mathematics and wound care in their training than the experimental group. No differences in client profile, based on age, diagnosis and main problems, were found between the control and experimental group. Generally, few interventions were observed in each category of the checklist, with the medians ranging from 1 to 3 for the experimental group and 0 to 2 for the control group. Despite the similar training, the HBCs exposed to physiotherapy students had higher scores in every category of the checklist more often than those who were not exposed to students, with an exception for the 'Core Home/Community Based Care' category which was the same in both groups.

5 Chapter 5: Discussion

This study investigated the profile and case load of HBCs; the training received by HBCs; the scope of their practice; and the benefits of collaboration with physiotherapy students. Our most important findings included: a varied length of training was given to HBC participants; despite receiving training opportunities, the HBCs employ very little interventions during their home visits; and finally, the collaboration with physiotherapy students was associated with an increase in the scope of the interventions, particularly in the areas of 'personal needs' and 'ADL' even though the experimental group received a shorter training program which covered less topics.

5.1 Home based carers: profile

5.1.1 Age and gender

The first study objective was to develop a profile of the enrolled HBCs. The results indicate that the majority of the HBCs were middle aged females with limited secondary school education. The sample of HBCs enrolled in this study is similar to carers in other low to middle income countries, such as Madagascar, Nigeria, Somalia and Uganda (20), and can be therefore accepted as a good representation of community health workers. Also the predominance of female HBCs is a common phenomenon in volunteers and community health workers, which includes HBCs (73). Further, caring professions are also found to be predominantly middle aged females (9, 50, 75). "*The provision of care falls disproportionately to women and older people*" (55), which explains why rehabilitation carers are mostly female. Somewhat controversially, that due to a more caring personality of women, professions such as nursing and home based care are dominated by females (73). But other factors, such as accessibility of education and more lucrative employment opportunities may also have an influence (76). However, this might not be the case in Brazil where males and females have different educational qualifications but all receive the same monthly salary (73). In Madagascar, community health care workers trained in providing contraceptive services to rural villages, have a similar age range as our sample (77). More females than males were trained in Madagascar and Brazil, which had no influence on their status as a community health worker (73, 77).

Similar to these findings, studies in South Africa also suggest a higher prevalence of female CHWs (10, 76, 78). This literature further suggests that women who carry out caring tasks in their own homes will continue to do so in their community (73). One study suggests that although female CHWs are exposed to new opportunities and resources, the traditional caring roles are embedded in their culture for which gender challenges are still existent in community health work (79, 80). The female role is still seen as less important, which undermines their professionalism and oblige them to prove their professional worth far more than males. In communities where curative tasks are seen as more valuable than promotional work, female CHWs were assigned to health promotion whereas males were assigned to curative tasks (80, 81).

Due to the gender and educational disadvantages of HBCs, high standards of training should be encouraged to avoid stagnation in poor paying positions, and thus facilitating possible promotion.

5.1.2 Training of home based carers

Duration of training differed considerably across the respondents with 34% receiving a standardised 48-month training and 42% had less than ten years' experience. When comparing the variation in length of training to other studies, a difference is seen as generally training length is constant within a specific context (9). These results indicate that the content of training included a considerable amount of nursing care, first aid, wound dressing, and management of HIV/AIDS, TB and childhood diseases. Rehabilitation was part of the curriculum, however, carers tend to steer more towards nursing skills.

The training of CBWs in Brazil mainly focused on general, basic health related topics and on specific conditions and diseases like hypertension, diabetes and HIV/AIDS. In addition, they received training in healthy lifestyles, sanitary living conditions and public health strategies [73](63). Their continuous training was lectured by health professionals and nurses who used didactic training materials (73). In Niger on the other hand, the training is seven to ten days and consists of general health concepts, emergencies and referrals, epidemic diseases, health education, environmental sanitation and record keeping. This is supplemented by an

annual ten day refresher course (9). In Tanzania, the village health workers received three to six months training, which prepared them to assist pregnant women with birth planning, antenatal and obstetrics services and care, identifying danger signs and do health promotion around pregnancy (82).

A study conducted in Brazil did not find a correlation between training length and care given, which indicates that a shorter period of training does not reduce the quality of care (83). Huicho (2008) investigated quality of care between CHWs from multiple countries, who received training of varying durations. The quality of care was similar across CHWs, irrespective of the duration of training (83). On-going training or refresher courses appear to be just as important as the initial training in order to preserve acquired skills and meet community needs (9).

HBC`s were trained in response to HIV/AIDS crises with the responsibility of providing primarily palliative care to those diagnosed with late stage AIDS (84, 85). With the advent of anti-retroviral therapy, the prognosis of those living with HIV/AIDS improved, even though with major complications to the use of the medication. Peripheral neuropathy and other neurological symptoms compounded by pain were a few that were researched (84, 85, 86). A South African study found that 17% of AIDS affected people need assistance with toileting and bathing (88). The Global BoD report suggests a decrease in infectious diseases, with an increase in non-communicable diseases with associated disability (89). Based on the evidence above, it would appear as if the current training of HBC`s is outdated, and should be re-evaluated.

5.2 Types of clients

The age of the clients seen at community level ranged from 24 to 96 years with the vast majority between 50 and 70 years. Generally, the prevalence of disability progressively increases from 31 years onwards, with the highest prevalence in the age group over 75 years (90). Therefore, it is anticipated that elderly require community based services more often. However, due to the high incidence of injuries and motor vehicle accidents, which affect mostly young people, the age of the clients requiring disability care in the low income

context of the current study tends to be lower (91). The de-institutionalisation of mental health cases also has a severe impact on the case load of HBCs (92), as approximately 42 % of the population in the Western Cape have mental health problems (92). According to the 2001 census, a higher proportion of people with disability can be found amongst elderly and a higher rate of disability is seen in women than in men (5). These findings correlate with findings from our study, as we also found that the majority of clients were female and older than 50 years of age. This is in accordance with the WHO findings, which indicate a higher burden of disease in the older age groups (93).

The results of this study substantiate that the prevalence of chronic diseases is associated with ageing, as OA/RA, hypertension, CVA and diabetes were most prevalent among clients seen by the four organisations included in our study. Non-communicable diseases are rapidly rising and placing a significant burden on health services (74) with Ischaemic heart disease and CVA being the two most common causes of death worldwide (92, 95). The Western Cape suffers from a quadrupling burden of disease, of which I) non-communicable diseases, in particular cardiovascular diseases; ischaemic heart disease and stroke; II) major infectious diseases including HIV/AIDS and TB; III) childhood diseases; and IV) injuries; are the most common (81).

These findings with regards to clients' current conditions suggest that an adjustment of HBCs' training might be required to provide a more adequate support in health promotion and prevention of chronic disease of lifestyle (94). However, as discussed above, the current HBCs' training mainly focuses on the needs of people living with HIV/AIDS, which may be misplaced as only 6% of the clients were reported as being HIV positive in this study.

Based on the most prevalent diagnosis seen by the HBCs, it is anticipated that pain and discomfort, getting around and self-care are the three most frequently reported main problems. Mobility difficulties can be caused by RA/OA, hypertension and CVA however the reasons behind these difficulties might be different. Inflammation and joint stiffness are key signs and symptoms of RA and OA which will lead to complaints of pain and discomfort as well as problems with getting around (96, 97). This corresponds with the 2011 census which

state that 5.9% of the South African population has difficulties or limitations with walking or climbing stairs and self-care (6).

The clients enrolled in this study could therefore be seen as representatives of the South African population, hence cautious generalisation of results could be made towards other home based carers with a similar client population.

5.3 Interventions

Intra-rater reliability was established for the Observation Checklist as a high correlation was seen between the two observed scores, assessed by the same research assistant, for each HBC.

The number of interventions performed by the HBCs was disappointingly low, with a quarter of the clients receiving merely five interventions. This is in great contrast with the received training, on which the Observational Checklist was based, as this training did include a large number of useful interventions; however, many were seldom or never performed. Most of the performed interventions across all included HBCs were situated within the 'personal needs' category, followed by the 'ADL' and 'CHBC' categories. The 'personal needs' category included physical/biological and psychological needs, whereas the 'ADL' category included mobility, locomotion, transfer, dressing, washing, feeding, toileting, continence, hearing, vision and speech. Although, not every client need every intervention, items such as stress relief, budget skills, adjustment to low resources and education on healthy living are highly likely to be relevant to most clients within this socioeconomic context. As nursing is emphasised in the HBCs' training, interventions within the 'CHBC' category, which includes interventions regarding medication usage, were commonly employed. However, only a small group of HBCs in the experimental group was able to give advice on the toxicity of medication. It is however, debatable as to whether this should be part of the job requirement, as training on this aspect could be insufficient.

The role and scope of CHWs seems to be determined by the context and health needs. Due to the HIV crisis in South Africa a couple of years ago, a cadre of HBCs was created to unload

hospital care and promote community-oriented care (10). This is evident from the interventions provided by most CHWs, as their training focused more on providing nursing care and other forms of support to chronically ill patients. This is in line with findings from Ethiopia, where CHWs focus on family health services, disease prevention and control of HIV, TB and malaria. Also, in Malawi, the focus of home-based services is HIV testing, counselling, monitoring adherence to and dispensing antiretroviral medication (11). In Brazil, on the other hand, the scope of practice of CHWs did not include any nursing activities; however, they focused more on disease prevention and health promotion, especially in the field of immunisation and prenatal services (11).

The type of training received by CHWs should reflect the role they are expected to play within their communities. The emphasis on nursing, palliative care and health promotion is evident in the practice of the HBCs enrolled in this study, which indicates a good preparation towards managing terminally ill patients with HIV/AIDS. This indicates that the initial training and the on-going courses, particularly those in the control group, have been successful. However, due to the changing needs of the community, rehabilitation interventions introduced by the physiotherapy students seem to add value to the HBCs skills, which is evidenced from an increase of rehabilitation interventions given by the HBCs.

5.4 Impact of collaboration with students on performance

The collaboration between HBCs and physiotherapy students appears to be associated with an improvement in the scope and number of interventions employed by the HBCs. One of this study's weaknesses is the absence of pre-exposure testing to students before collaboration started. Another weakness is the non-randomised selection of HBC organisations. Therefore, it is impossible to establish a causal relation between student placement and better performance by HBCs.

As hypothesized, an improvement in management of functional problems is observed in HBCs exposed to students. The HBCs who collaborated with physiotherapy students provided more interventions related to impairments and functional limitations compared to HBCs who were unexposed to physiotherapy student. Physiotherapy practice is mainly

focused on the management of movement disorders, which could explain the increase in interventions in these domains. HBCs learn through a repeated process of experiential learning, which helps them in developing knowledge and expertise, and reflects in their client' education abilities (73). Due to a consistent contact with the physiotherapy students and their supervisors on some occasions, the HBCs were able to refine their expertise as this collaboration might have exposed them to technical information and skills. As the HBCs are exposed to the physiotherapy students for a period of 5 weeks, relationships can be built and practice can be improved (98, 99). This learning centred approach increases participation and emphasises a direct engagement (64). Adult learning is the most effective during active participation, by using experiential learning and by reflecting on their actions (100). As the HBCs are all mature adults, it is anticipated that they benefit from an experiential learning experience, such as working with students. This theory is supported by a study done in Western Australia, where CHWs were trained to compensate for a lack of human resources and a high turnover of staff (25). The CHWs did not receive any theoretical input with regards to rehabilitation, however, they learned through observation and practice, which led to a positive change in performance levels (25, 101).

Although experiential learning is an effective method of learning in adults, it does have a disadvantage, as the HBCs may not receive financial recognition for their added services, which may lead to a lack of motivation.

5.5 Attitudes and experiences

The HBCs were very positive with regards to their collaboration with students. However, 7 out of 12 students reported i.e. 75% on their experience of working with the HBCs. This could be due to a feeling of discomfort with regards to working in the community. Students might experience many problems during home based client management within the community. Some of these problems include: resource issues; clinical relationships; support; safety/competency; and accountability (102). The distribution of power in the relations between the therapist, HBCs and patient is complex. Tasker (2012) looks at power imbalances between community-based physiotherapists and their clients (103). The physiotherapy students can feel as if they are intruding the client's home and personal space

(103). Another factor, safety in the community, can also influence the number of home visits the students attend and the student's attitude to this clinical block.

5.6 Implications for home based carers

Home based care services should be improved and expand, so care can be brought closer to people with disabilities and their families within the community, making primary care directly accessible which enhances patient's health and wellness. A study was conducted in Zimbabwe, in which a description of the functioning of Rehabilitation Technicians is given (46). The author suggests that their work process must change in order to improve effectiveness (46). The process should be controlled at community level, so it can act as a mediator between the person with the disability and the rehabilitation health services. It will help to develop a relationship between the people with disability, the caregivers, volunteers and the members of the community and it will make carers less dependent on the health system and resources provided by district hospitals (46). Collaboration between the University of Sydney and NGOs provide final year physiotherapy and occupational therapy students the opportunity to train community based rehabilitation workers throughout South India (104). Physiotherapy and Occupational Therapy are two health disciplines who specifically focus on providing functional rehabilitation for people with disabilities. Rehabilitation professionals providing services at community level is valuable, especially when rehabilitation professionals and HBCs work side-by-side to employ a holistic patient management. The HBCs should be trained in providing the day-to-day home based therapy which will lead to a client and family centred approach and management (104). The rehabilitation professionals on the other hand, can then provide supervision of the HBCs, which can improve the performance and skills of community health workers, with a positive influence on their work (105).

6 Chapter 6: Conclusion, limitations and recommendations

6.1 Conclusion

To conclude, this study indicates a wide variety in the length of training received by HBCs, who tend to be middle aged females with low educational qualifications. They are treating clients who are predominantly older than 50 years of age and mainly suffer from chronic diseases of lifestyle rather than infectious diseases (such as HIV) and trauma. HBCs use only a small repertoire of interventions; however, it appears to be the collaboration with physiotherapy students that is associated with an increase in the number and scope of interventions. The HBCs responded positively to student collaboration and benefited from these interactions in all domains of intervention, apart from the 'core health and community based activity' domain, which includes mainly nursing tasks. Students found the placement to be useful, not in terms of acquiring new clinical skills, but rather in learning about the community, their clients and conditions.

6.2 Limitations

There are several implications and recommendations arising from these findings:

6.2.1 The HBCs are drawn from a very vulnerable group. They receive inconsistent training and are rather employed by non-governmental agencies than local authorities. Their career pathway is therefore not well established. Although the aim of the EPWP is to skill unemployed people, the future of the trainees should be assured by regulating the training program, assigning certificates and defining job descriptions.

6.2.2 The HBCs training seems inappropriate for their job description. The client's profile has changed considerably since the inception of the training, however, the courses still concentrate on communicable diseases (HIV/TB) and nursing procedures rather than the needed rehabilitation skills to manage chronic diseases of life style. Therefore, the training needs to be modified to meet the necessary skills required for community work.

6.2.3 The HBCs urgently need continuous education and support. It is rather disturbing that third year physiotherapy students, who have relative little expertise, appear to have a noticeable impact on the performance of HBCs. It is clear that momentarily no adequate training or on-going professional support is provided to the HBCs. This is a disadvantage to both the HBCs and their clients.

6.2.4 With regard to the education of physiotherapy students, it is clear that the community placement was well received. The re-orientation of physiotherapists and/or occupational therapists to work within PHC levels is essential, in particular to address the shortage of rehabilitation professionals at community level, especially in rural areas. An important role for them will be assisting CHWs in improving their skills, which are necessary for improving rehabilitative care for people with disabilities. The interactions between students and HBCs appeared to be mutually beneficial for which an implementation of such a model in future is recommended.

6.2.5 The HBCs are very keen to learn, as is proven by their endorsement of the physiotherapy student's input. Although the deployment of HBCs may seem to fulfil the needs of the ill and disabled within the community, the most socio-economically deprived persons are still unable to obtain adequate services. A high need for home care is evident, but local authorities need to revise the role of professionals with regards to care providing, particularly in urban areas where there are professionals who are probably more willing to play this role. There is little point in preparing students for community-work when there is no role for them with regards to training and supporting HBCs. HBCs are in urgent need for professional support, which can only be given when adequate posts are created.

6.2.6 Methodology and Limitations

Even though the sample size was deemed sufficient to detect differences between the groups, a larger sample size could have provided more information about the experiences of students within the community placement. Further, as the selected organisations were already in partnership with the UCT Division of Physiotherapy, they may represent a more functional organisation with the performance of their HBC`s being better than others who have not had exposure from students. Another source of bias is that student allocation was done a priori, in addition to the lack of a pre-testing, makes it impossible to conclude whether the better performance of the

HBC`s was, in fact, due to the student placement. The HBCs might have been more competent before the start of the study. As an experimental design requires strict control of outside influences, there might have been limiting confounding variables in the study, which could have influenced the outcome measures. A true randomized control trial is recommended to ensure a bias-free group allocation (106).

The quality of the HBCs' interventions was not evaluated, only the frequency and quantity of tasks was assessed. Hence, further research should be conducted to investigate the quality of service delivery. Even though the checklist was based on the National Guidelines for HBC, the instrument may not be appropriate, as it may not reflect the training of the HBC. This was evident as many items were hardly ever scored.

The appropriateness of the techniques used by the HBCs was not measured and can be a weakness of this study.

Finally, the client's perception and the effect of the interventions on the client's functional abilities were not assessed. Therefore, we are unable to conclude whether one group was more effective in improving clients' functioning than the other.

6.3 Recommendations

6.3.1 Training of home based carers

It is recommended that on-going training is provided for HBCs to ensure a direct tie between training, work requirements and community level needs. Training on site can have similar benefits to classroom teaching, but with more exposure to students and rehabilitation skills. The acquired knowledge and skills are easily lost when on-going training is unavailable.

6.3.2 Training of physiotherapy students

Physiotherapists are required to treat patients at community based level, for which exposure to community rehabilitation and collaboration with HBCs were found to be a valuable

learning experience for the physiotherapy students. Therefore, it is recommended to expose all students to a community placement in their curriculum.

6.3.3 Recommendations for practice

Role models are necessary to integrate rehabilitation at community level. By the modelling of physiotherapy students, a transfer of skills and knowledge was shown to be effective. Improving and supporting rehabilitation programmes at community level is urgently needed to improve quality of care.

6.3.4 Recommendations for future research

- A quasi-experimental design was used in this study to determine the association between student placement and performance. Although the study indicated a beneficial effect, a causal relation cannot be proven due to the weak research design. It is recommended that a randomised control trial, with random selection of organisations, random group allocation of HBCs and the use of pre- and post-testing, is carried out in future. This study design is more appropriate to prove a causal relation between HBCs performance and student placement.
- Improving collaboration between the HBCs and physiotherapy students at community placements can form a possible form of obtaining accreditation for the HBC. This can lead to an improvement of qualification, which will inspire and motivate the HBCs to participate in this collaboration.
- The HBC' educator is required to do more intensive research regarding clients' profiles and needs so training fits the purpose.

In conclusion, the generosity and enthusiasm of the HBCs need to be acknowledged. They are involved in daily care providing within a community with very vulnerable clients, which they do to the best of their abilities. It is therefore only natural that these carers receive the necessary training and support so a high level of care can be provided to their clients. When we fail to give the necessary support, their clients, who live in the most deprived

circumstances, will continue to receive an inferior care compared to their more wealthy counterparts. This we cannot justify twenty years into democracy.

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8 Appendices

8.1 Appendix 1: Ethical approval letter

UNIVERSITY OF CAPE TOWN

Faculty of Health Sciences
Faculty of Health Sciences Research Ethics Committee
Room E52-24 Groote Schuur Hospital Old Main Building
Observatory 7925
Telephone [021] 406 6338 • **Facsimile** [021] 406 6411
e-mail: sumayah.ariefdien@uct.ac.za

28 May 2012

HREC REF: 159/2012

Ms L Rustin
Department of Physiotherapy
Health & Rehab Sciences
OMB

Dear Ms Rustin

PROJECT TITLE: PHYSIOTHERAPY STUDENT INTERACTION WITH HOME BASED CARERS AND THE IMPACT ON SERVICE DELIVERY.

Thank you for addressing the issues raised by the committee.

It is a pleasure to inform you that the Ethics Committee has **formally approved** the above mentioned study.

Approval is granted for one year till the 15 June 2013.

Please submit a progress form, using the standardised Annual Report Form (FHS016), if the study continues beyond the approval period. Please submit a Standard Closure form (FHS010)if the study is completed within the approval period.
(Forms can be found on our website:www.health.uct.ac.za/research/humanethics/forms)

Please note that the ongoing ethical conduct of the study remains the responsibility of the principal investigator.

Please quote the REC. REF in all your correspondence.

Yours sincerely

PROFESSOR M BLOCKMAN
CHAIRPERSON, HSF HUMAN ETHICS

Federal Wide Assurance Number: FWA00001637.
Institutional Review Board (IRB) number: IRB00001938

sAriefdien

8.2 Appendix 2: Self-developed questionnaire (for home based carers) – isiXhosa

Department of Health and Rehabilitation Sciences

Faculty of Health Sciences

Divisions of Communications Sciences and Disorders, Nursing and Midwifery, Occupational Therapy, Physiotherapy

F45 Old Main Building, Groote Schuur Hospital,

Observatory 7925

Tel: +27 (0) 21 406 6401 Fax: +27 (0) 21 406 6323

Date: .....

Igama: .....

Umbutho: .....

Iminyaka: .....

Iqondo lwemfundo- eliphakamileyo: .....

Iminyaka uqeshwe njenge HBC: .....

Ithuba loqeqesho: .....

Ingxelo ngoqeqesho:Nceda ufake uphawu olubonisa iinkalo oqeqeshwe kuzo njenge HBC

TB	
HIV/AIDS	
First Aid	
Counselling	
Hygiene (nail care/mouth wash)	
Wound dressings	
Introduction to computers	
Introduction to maths	
Biology	
Childhood diseases and immunisations	
Rehabilitation of clients	
Exercise and wellness	

Self-developed questionnaire (HBCs) – English

Name: _____

Organisation: _____

Age: _____

Highest qualification: _____

Years employed as a HBC: _____

Length of Training: _____

Content of training: Please indicate by ticking off the content covered in your training as a HBC

TB	
HIV/AIDS	
First Aid	
Counselling	
Hygiene (nail care/mouth wash)	
Wound dressings	
Introduction to computers	
Introduction to maths	
Biology	
Childhood diseases and immunisations	
Rehabilitation of clients	
Exercise and wellness	

8.3 Appendix 3: South African Qualifications Authority (SAQA)

SOUTH AFRICAN QUALIFICATIONS AUTHORITY
REGISTERED QUALIFICATION:

National Certificate: Community Health Work

SAQA QUAL ID	**QUALIFICATION TITLE**			
64749	National Certificate: Community Health Work			
ORIGINATOR		**ORIGINATING PROVIDER**		
SGB Ancillary Health Care				
QUALITY ASSURING BODY				
HW SETA - Health and Welfare Sector Education and Training Authority				
QUALIFICATION TYPE	**FIELD**		**SUBFIELD**	
National Certificate	Field 09 - Health Sciences and Social Services		Preventive Health	
ABET BAND	**MINIMUM CREDITS**	**OLD NQF LEVEL**	**NEW NQF LEVEL**	**QUAL CLASS**
Undefined	140	Level 2	NQF Level 02	Regular-Unit Stds Based
REGISTRATION STATUS		**SAQA DECISION NUMBER**	**REGISTRATION START DATE**	**REGISTRATION END DATE**
Reregistered		SAQA 0480/09	2009-07-01	2012-06-30
LAST DATE FOR ENROLMENT		**LAST DATE FOR ACHIEVEMENT**		
2013-06-30		2016-06-30		

In all of the tables in this document, both the old and the new NQF Levels are shown. In the text (purpose statements, qualification rules, etc), any reference to NQF Levels are to the old levels unless specifically stated otherwise.

This qualification replaces:

Qual ID	**Qualification Title**	**Old NQF Level**	**New NQF Level**	**Min Credits**	**Replacement Status**
49085	National Certificate: Fundamental Ancillary Health Care	Level 2	NQF Level 02	154	Complete

PURPOSE AND RATIONALE OF THE QUALIFICATION

Purpose:

This Qualification is for any individual who is, or wishes to be, involved in Ancillary Health Care services. A learner who has achieved this qualification will integrate a range of basic awareness and competences to perform the roles of health promoter, assistant or health provider and assist the health networker within a community development context.

The Qualification will facilitate access to and mobility and progression within education and training for learners who were previously disadvantaged or who were unable to complete their schooling and were therefore denied access to Further Education and Training. It will also assist those who have worked in this

field for many years, but have no formal recognition of knowledge and skills that they have acquired non-formally but would like to achieve this recognition through the process of Recognition of Prior Learning (RPL) and/or formal study.

Learners who complete this Qualification will have better self and social awareness and will possess a wider range of skills to better understand and function in the ancillary health care field in various community contexts. Learners successfully completing this Qualification will provide a service that will assist communities to better manage their own health and wellness. They will have the skills to support team members and assist in the provision of support services within a multi-disciplinary health care team. Practitioners will generally carry out their roles within the context of the client's home, a community care centre and/or the broader community.

Learners successfully completing this Qualification will be capable of:
- Communicating in a variety of ways by assisting in the provision and implementation of primary health care within a community.
- Creating awareness on critical health care issues within a community.
- Performing health care activities.
- Managing self-development and implementing fundamental administrative, physical and life skills to ensure ongoing well-being and work productivity.

Rationale:

The South African Government is committed to combining the national human resource development strategy with the rapid upgrading of service delivery to all of the nation's communities.

An integral part of this strategy is initiatives to strengthen communities` abilities to empower themselves to participate in the political, economic, and social and development spheres of South African life. Two key components in this empowerment are communities` abilities to integrate with and access state services, and their ability to further the health and wellness of community members.

There is no doubt from the international experience of Community Health Workers (CHW) that they play a role in improving the basic health status of communities. In South Africa, the important supportive role of CHWs in the provision of health care services has been extensively documented. This contribution is further exemplified in those parts of the country where there is a shortage of professional health workers to provide the necessary health care services based on identified needs.

The Department of Health is leading the implementation of a multi-professional team-based approach to health care delivery, where each member of the team has a defined role to ensure that there is no duplication and overlapping of functions.

Since Ancillary Health Care workers are found throughout the country - from established urban areas to scattered farms and deep rural areas - the type of learner to enter for this qualification is equally varied. The first level qualification in the bouquet is at NQF Level 1, ABET Level 4 and the last qualification is the FETC: Community Health Work at NQF Level 4. As a result, learners will vary in age, in background and in level of formal schooling. The common denominator is the desire to help their fellow beings.

This Qualification will equip the learner with the essential skills and knowledge required to effectively perform the Ancillary Health Care function. The Core Unit Standards consist of competencies relevant to assisting in various spheres of health care projects to achieve health care objectives, examining the effects of fatigue in the workplace, understanding and applying the principles of primary health care to projects within a community, including participating in health promotion activities, providing information about HIV and AIDS and treatment options, providing information about Tuberculosis, first aid procedures. Further the learner will assist in the establishment of good nutrition programmes and assist the community in accessing services according to their health related human rights.

LEARNING ASSUMED TO BE IN PLACE AND RECOGNITION OF PRIOR LEARNING

- Mathematical Literacy at NQF Level 1, ABET Level 4.
- Communication at NQF Level 1, ABET Level 4.

Recognition of Prior Learning:

The structure of this Unit Standards' based Qualification makes the Recognition of Prior Learning (RPL) possible. RPL will be done by means of an Integrated Assessment, during which the learner should be able to demonstrate competence in the knowledge, skills, values and attitudes implicit in this Qualification.

RPL may allow for accelerated access to further learning. All RPL is subject to quality assurance by the

relevant accredited Education and Training Quality Assurance Body (ETQA) or ETQA that has a Memorandum of Understanding in place with the relevant ETQA. RPL is conducted by a registered assessor who is accredited by the relevant ETQA or ETQA that has a Memorandum of Understanding in place with the relevant ETQA.

Access to the Qualification:
- Access to this Qualification is open, bearing in mind the conditions of the Learning Assumed to be in Place.

RECOGNISE PREVIOUS LEARNING?

Y

QUALIFICATION RULES

The Qualification consists of a Fundamental, a Core and an Elective Component.

To be awarded the Qualification, learners are required to obtain a minimum of 140 credits as detailed below:

Fundamental Component:

The Fundamental Component consists of Unit Standards in:
- Mathematical Literacy at NQF Level 2 to the value of 16 credits.
- Communication at NQF Level 2 in a First South African Language to the value of 20 credits.

All Unit Standards in the Fundamental Component are compulsory.

Core Component:
- The Core Component consists of Unit Standards to the value of 88 credits, all of which are compulsory.

Elective Component:
- The Elective Component consists of a number of Unit Standards. Learners are to choose a combination of Unit Standards to the minimum value of 16 credits.

EXIT LEVEL OUTCOMES

1. Communicate in a variety of ways by assisting in the provision and implementation of primary health care within a community.

2. Create awareness on critical health care issues within a community.
- Note: The language medium of the community is used throughout.

3. Perform health care activities.

4. Manage self-development and implement fundamental administrative, physical and life skills to ensure ongoing well-being and work productivity.

Critical Cross-field Outcomes:
- Identify and solve problems related to community health work in order to effectively assist in the implementation of health care projects in a community.
- Work effectively with others as a member of a team, group, organisation or community to generate awareness and knowledge of health care issues, treatments and options within a community.
- Organise and manage oneself and one's activities responsibly to ensure own well being and productivity in order to effectively administer and assist in the implementation of health care projects within own work context.
- Collect, organise and critically evaluate information relating to the health care industry, legislation, structures and processes that affect primary health care in order to ensure that effective assistance is provided in implementing health care projects and also to ensure that correct knowledge is imparted to community and thus successful awareness created in relation to health related human rights.
- Communicate effectively using visual, mathematics and language skills in the modes of oral and/or written persuasion to interact with community, colleagues, supervisors and any other stakeholders that affect the implementation of community health care projects.
- Use science and technology effectively and critically showing responsibility towards the environment and the health of others in order to effectively administer, record and report data relating to own contributions and functions in health care projects.
- Demonstrate an understanding of the world as a set of related systems by recognising that problem-

solving contexts relating to primary health care not exist in isolation and that a variety of external factors, including political, socio-economic, capacity, resources, budgets and community needs will affect how a community health project is planned and administrated.

ASSOCIATED ASSESSMENT CRITERIA

Associated Assessment Criteria for Exit Level Outcome 1:

1.1 Discussions on basic community needs are held in the language spoken in the community to identify priority health care needs within that community.
1.2 Understanding of the Health Care system in South Africa is demonstrated with examples related to own community priorities and objectives.
1.3 Participation and assistance is provided in the facilitation of health promotion activities with information provided in the language medium of that community.
1.4 Advice is given to communities and individuals on primary health care issues.

Associated Assessment Criteria for Exit Level Outcome 2:

2.1 Assistance is provided in the facilitation of the prevention of fatigue in everyday life.
2.2 Information is provided regarding HIV and AIDS and treatment options in community care and support situations.
2.3 Information is provided regarding Tuberculosis and directly observed treatment (DOTS).
2.4 Information is provided regarding the concept of and access to good nutrition.
2.5 Information and assistance are provided to community members to assist them to access services in accordance with their health related human and social rights.

Associated Assessment Criteria for Exit Level Outcome 3:

3.1 Assistance is provided in the establishment of good nutrition through the establishment of communal and individual food gardens and the communal exchange of nutrition resources.
3.2 The care of acute and chronic wounds is managed on a needs basis.
3.3 Basic life support and/or first aid procedures are practiced regularly so that individuals are able to react appropriately in actual emergency situations.

Associated Assessment Criteria for Exit Level Outcome 4:

4.1 Musculoskeletal injuries are controlled to reduce their occurrence during lifting and carrying activities.
4.2 The causes of stress in own life are identified and managed to prevent health breakdown.
4.3 Life skills are applied to self to improve own quality of life - personally and at work.

Integrated Assessment:

Because assessment practices must be open, transparent, fair, valid, and reliable and ensure that no learner is disadvantaged in any way whatsoever, an integrated assessment approach is incorporated into the Qualification.

Learning, teaching and assessment are inextricably linked. Whenever possible, the assessment of knowledge, skills, attitudes and values shown in the unit standards should be integrated. Assessment of language, and mathematical skills should be contextualised in conjunction with other aspects.

A variety of methods must be used in assessment and tools and activities must be appropriate to the context in which the learner is working. Where it is not possible to assess the learner in the workplace or on-the-job, simulations, case studies, role-plays and other similar techniques should be used to provide a context appropriate to the assessment.

Assessment should ensure that all specific outcomes, embedded knowledge and critical cross-field outcomes are evaluated. The assessment of the critical cross-field outcomes should be integrated with the assessment of specific outcomes and embedded knowledge.

INTERNATIONAL COMPARABILITY

There are no internationally recognised qualifications for Ancillary Health Care workers. This Qualification is uniquely South African and is appropriate for the unique requirements in this country. It can be adapted for use in neighbouring Southern African Development Community (SADC) and other third-world countries.

Other countries, affected by the global shortage in the health sector workforce, have responded with initiatives using Community Health Workers and have created facilitative training initiatives for them.

However, much Ancillary Health training is reactive in response to regional needs, rather than proactive, as this Qualification attempts to be. Whilst the content of qualifications and skills programmes varies from country to country, based on current urgent needs, they are comparable in content and level. Common themes enable Community Health Workers to act as a bridge between the community and the health care system and deal directly with some simpler community based problems.

The academic background and training of Community Health Workers vary widely in different regions. According to the World Health Organization, Community Health Workers should have a level of basic education that enables them to read, write, and do simple mathematical calculations.

Globally, Community Health Workers provide basic health services to a large number of populations, including poor people from rural areas. However, their efficiency is limited by lack of knowledge and skill. Continuing medical education and training programmes should provide problem oriented education, which would enable Community Health Workers to conduct programmes and provide primary health care.

Countries and continents using Community Health Workers include, but are not limited to, Nepal, India, Bangladesh, Brazil, South East Asia and Africa.

United States of America, Canada and the United Kingdom:

In some parts of the United States of America (USA), Canada and the United Kingdom (UK), in response to changing demographics and an influx of immigrants from diverse regions, inter alia, Cambodia, Vietnam, and Thailand) ancillary health care programmes to and training for Community Health Workers have also been introduced.

In the USA, the Minnesota Department of Health uses bilingual Community Health Workers to act as health guides or bridges between the health care system and patients in immigrant communities. Their roles include informal counselling, social support, and health education, enrolment in health insurance programmes, advocacy, and referral and follow up services. Community Health Worker programmes has been found to be cost effective and to improve health outcomes among minority and immigrant populations. Training programmes developed by the Healthcare Education Industry Partnership and the Blue Cross Blueshield Foundation are presented at a number of institutions, such as. The Minneapolis Community and Technical College, which provides a Community Health Worker Enhanced Role Certificate consisting of 17 Credits made up as follows:

Course No; Course Name; Credits:
- HCCC 1010; Behaviours for Success in Health Careers; 0.50 Credits.
- HCCC 1020; Communication in Healthcare; 1.00 Credits.
- HCCC 1030; Awareness and Sensitivity to Client Needs; 0.50 Credits.
- HCCC 1040; Respecting Client and Staff Diversity; 0.50 Credits.
- HCCC 1050; Healthcare Safety and Standard Precautions; 0.50 Credits.
- HCCC 1060; Legal Issues in Health Care; 0.50 Credits.
- HCCC 1070; Ethics; 0.50 Credits.
- HCCC 1080; Nursing Assistant Skill Set; 2.00 Credits.
- CMHW 1000; The Community Health Worker: Role, Advocacy and Outreach; 3.00 Credits.
- CMHW 1015; Organization and Resources: Community and Personal Strategies; 2.00 Credits.
- CMHW 1025; Teaching and Capacity Building; 2.00 Credits.
- CMHW 1035; The Community Health Worker: Legal and Ethical Responsibilities; 1.00 Credits.
- CMHW 1045; Community Health Worker Coordination, Documentation and Reporting; 1.00 Credits.
- CMHW 1055; Communication Skills and Cultural Competence; 2.00 Credits.

Other states with diversity issues utilising such programmes include Texas and California.

Project based training:
- In much of Africa, Ancillary Health Care workers are trained as part of international aid projects.

Kenya:

The community based HIV/AIDS Prevention and Support Project used and trained Community Health Workers using a 'cascading' method. A group of 250 master trainers trained larger groups of trainers who trained even larger groups of Community Health Workers and HIV/AIDS counsellors in community home-based care. Through this process almost 1,500 Community Health Workers were trained and provided continuing support to over 71,000 primary care givers.

Community Health Workers taught primary caregivers simple nursing skills such as the proper way to turn a patient, how to wash the patient in bed, nutritional needs, proper storage of drugs and monitoring adherence, and the importance of encouragement and avoiding stress.

However, much Ancillary Health training is reactive in response to regional needs, rather than proactive, as this Qualification attempts to be. Whilst the content of qualifications and skills programmes varies from country to country, based on current urgent needs, they are comparable in content and level. Common themes enable Community Health Workers to act as a bridge between the community and the health care system and deal directly with some simpler community based problems.

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Community Health Workers taught primary caregivers simple nursing skills such as the proper way to turn a patient, how to wash the patient in bed, nutritional needs, proper storage of drugs and monitoring adherence, and the importance of encouragement and avoiding stress.

Community Health Workers also helped patients and their families identify resources such as food security and financial support provided by local community and faith-based organizations.

SADC:

An examination of the situation within the SADC region indicates that the region is aware of the needs that can be met by such programmes. However South Africa seems to be taking the lead in this regard and there is little comparative literature available on existing SADC programmes.

Conclusion:

On the whole the NC: Community Health Work compares more than favourably with the courses and/or programmes in Community Health Work offered internationally. It is much more comprehensive and intensive than most programmes offered or accredited by organisations and/or institutions abroad.

This qualification, as an outcomes' based education programme, is unique to South Africa and is appropriate for the specific requirements of this country in terms of holistic and comprehensive health care and delivery. This qualification can be adapted to individual sub-Saharan countries and more especially, the SADC region countries, as well as all other countries with similar health provision services. This qualification is also unique in its fundamental focus and foundational philosophy in establishing ancillary health care as a learning pathway in its own right. Whilst there are many programmes that are bundled internationally under other more general programmes, the focus in this qualification is unique in that it is streamlined for the ancillary health care worker at a foundational level.

ARTICULATION OPTIONS

There are no currently registered qualifications with which this qualification can articulate horizontally.

The Qualification articulates vertically with the:
- ID 64769: National Certificate: Community Health Work, NQF Level 3.
- ID 49993: National Certificate: Auxiliary Nursing, NQF Level 3.

MODERATION OPTIONS

- Anyone assessing a learner or moderating the assessment of a learner against this Qualification must be registered as an assessor with the relevant ETQA or with an ETQA that has a Memorandum of Understanding in place with the relevant ETQA.
- Any institution offering learning that will enable the achievement of this Qualification must be accredited as a provider with the relevant ETQA or with an ETQA that has a Memorandum of Understanding in place with the relevant ETQA.
- Moderation of assessment will be overseen by the relevant ETQA or by an ETQA that has a Memorandum of Understanding in place with the relevant ETQA, according to the ETQA`s policies and guidelines for assessment and moderation.

CRITERIA FOR THE REGISTRATION OF ASSESSORS

For an applicant to register as an assessor for this Qualification, the applicant should be:
- In possession of a relevant qualification at least one NQF Level higher than that of the Qualification.
- Registered as an Assessor with the relevant ETQA.
- Acknowledged as an expert in the field of Community Health Work.

NOTES

This qualification replaces qualification 49085, "National Certificate: Fundamental Ancillary Health Care", Level 2, 154 credits.

UNIT STANDARDS:

	ID	UNIT STANDARD TITLE	OLD LEVEL	NEW LEVEL	CREDITS
Core	260617	Assist the community to access services in accordance with their health related human rights	Level 1	NQF Level 01	6
Core	119559	Demonstrate knowledge of the provision and implementation of primary health care	Level 1	NQF Level 01	10

Core	119567	Perform basic life support and first aid procedures	Level 1	NQF Level 01	5
Core	15091	Plan to manage one`s time	Level 1	NQF Level 01	3
Core	117017	Provide information about Tuberculosis and directly observed treatment (DOTS)	Level 1	NQF Level 01	3
Core	120308	Apply knowledge of self in order to make a personal decision	Level 2	NQF Level 02	3
Core	260478	Apply life skills to everyday life	Level 2	NQF Level 02	5
Core	260477	Assist in establishing good nutrition for community members	Level 2	NQF Level 02	12
Core	260697	Conduct a basic community needs assessment	Level 2	NQF Level 02	12
Core	260480	Facilitate the prevention of fatigue in the workplace	Level 2	NQF Level 02	3
Core	244564	Identify causes of stress in own life and indicate techniques to manage it	Level 2	NQF Level 02	2
Core	260499	Manage the care of acute and chronic wounds	Level 2	NQF Level 02	3
Core	260497	Participate in health promotion activities	Level 2	NQF Level 02	8
Core	119560	Promote an awareness of Sexually Transmitted Infections (STIs) in the community	Level 2	NQF Level 02	4
Core	254221	Prevent musculoskeletal injuries to self during lifting and carrying activities	Level 3	NQF Level 03	3
Core	117493	Provide information about HIV and AIDS and treatment options in community care and support situations	Level 3	NQF Level 03	6
Fundamental	119463	Access and use information from texts	Level 2	NQF Level 02	5
Fundamental	9009	Apply basic knowledge of statistics and probability to influence the use of data and procedures in order to investigate life related problems	Level 2	NQF Level 02	3
Fundamental	7480	Demonstrate understanding of rational and irrational numbers and number systems	Level 2	NQF Level 02	3
Fundamental	119454	Maintain and adapt oral/signed communication	Level 2	NQF Level 02	5
Fundamental	12444	Measure, estimate and calculate physical quantities and explore, describe and represent geometrical relationships in 2-dimensions in different life or workplace contexts	Level 2	NQF Level 02	3
Fundamental	119455	Respond to selected literary texts	Level 2	NQF Level	5

				02	
Fundamental	7469	Use mathematics to investigate and monitor the financial aspects of personal and community life	Level 2	NQF Level 02	2
Fundamental	9007	Work with a range of patterns and functions and solve problems	Level 2	NQF Level 02	5
Fundamental	119456	Write/present for a defined context	Level 2	NQF Level 02	5
Elective	260465	Live in wellness by using traditional and indigenous self help tools	Level 1	NQF Level 01	5
Elective	116991	Assist in establishing a disability friendly environment	Level 2	NQF Level 02	8
Elective	260463	Assist the client and significant others to manage home based health care	Level 2	NQF Level 02	12
Elective	260481	Create an awareness of disability and disability issues in a community	Level 2	NQF Level 02	10
Elective	260466	Demonstrate stress management techniques as a self-help tool	Level 2	NQF Level 02	8
Elective	120313	Investigate work opportunities in order to make a personal employment or work decision	Level 2	NQF Level 02	2
Elective	260479	Promote activities of daily living for clients with a disability or a chronic condition	Level 2	NQF Level 02	9
Elective	260498	Provide basic interventions to prevent deformities improve mobility and reduce pain for clients with disabilities	Level 2	NQF Level 02	8
Elective	260698	Reduce the impact of disasters on communities, the people and their environment	Level 2	NQF Level 02	8
Elective	117924	Use a Graphical User Interface (GUI)-based word processor to format documents	Level 2	NQF Level 02	5
Elective	117009	Apply palliative care principles when assisting and supporting the client and family to manage life-threatening disease	Level 3	NQF Level 03	10
Elective	260598	Provide support relating to home based care	Level 3	NQF Level 03	16

LEARNING PROGRAMMES RECORDED AGAINST THIS QUALIFICATION:

When qualifications are replaced, some (but not all) of their learning programmes are moved to the replacement qualifications. If a learning programme appears to be missing from here, please check the replaced qualification.

NONE

PROVIDERS CURRENTLY ACCREDITED TO OFFER THIS QUALIFICATION:

This information shows the current accreditations (i.e. those not past their accreditation end dates), and is the most complete record available to SAQA as of today. Some Quality Assuring Bodies have a lag in their recording systems for provider accreditation, in turn leading to a lag in notifying SAQA of all the providers that they have accredited to offer qualifications and unit standards, as well as any extensions to accreditation end dates. The relevant Quality Assuring Body

should be notified if a record appears to be missing from here.

NONE

8.4 Appendix 4: Client self-developed questionnaire (isiXhosa/English)

Department of Health and Rehabilitation Sciences

Faculty of Health Sciences

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F45 Old Main Building, Groote Schuur Hospital,

Observatory 7925

Tel: +27 (0) 21 406 6401 Fax: +27 (0) 21 406 6323

Client Name/ Igama lekliente: _____

Age/ iminyaka: _____

Gender/isini: Male / Female

Area/ indawo yokuhlala: _____

HBC _____

What is the client's diagnosis? / Xhela ingxaki leyo othe wayifumanisa injalo kwi-Kliente? *Please tick the appropriate box*

Stroke	
Amputation	
Arthritis	
COPD	
Spinal cord injury	
Cancer	
HIV	
TB	
Cerebral Palsy	
Other (specify)	

What are the main physical and psycho-social problems? / Zeziphi ezona ngxaki zangaphandle nezangaphakathi onazo khetha kwezi zingezantsi?
Please tick off the appropriate list.

Understanding and communicating e.g. concentration, understanding conversations	
Getting around e.g. walking, standing for long periods	
Self-care, e.g. washing and dressing, eating	
Getting along with people, making friends, sexual activities	
Life activities, e.g. completing household/work tasks	
Participation in society	
Anxiety and depression	
Pain and discomfort	

8.5 Appendix 5: National Guidelines Checklist

Personal Needs

Physical / Biological Needs	Did the HBC check the patient's:	
	Blood Pressure?	
	Blood Sugar?	
	Impairment?	
	Smell?	
	Touch?	
	Reaction time?	
	Pain / discomfort?	
	Condition of skin?	
	Condition of hair?	
	Condition of nails?	
	Condition of feet?	
	Condition of teeth?	
	Signs of abuse?	
	Constipation / diarrhoea?	
	Incontinence?	
	Any signs of pathology / disease?	
Psychological Needs	Did the HBC check the patient's:	
	Cognition?	
	Level of self-esteem / self-image?	
	Level of mental stimulation?	
	Opportunity for self-actualisation?	
	Beliefs / Religious Affiliations?	
	Coping mechanisms?	
	Insight into chronic illness (if applicable)?	
	Level of stress?	
	Level of depression?	
	Level of anxiety?	
	Loneliness / social isolation?	
	Interests in the outside world?	
	Motivation to help self?	
	Value of health?	

Environmental

Physical environment	Did the HBC consider aspects such as:	
	Safety and security?	
	Electricity water and sanitation?	
	Adequate housing?	
	Prevention of injury or falls?	
	Accessibility and availability of fixed devices (e.g. rails)?	

	Prevention of abuse (the need of support)?	
	Hygiene?	
	Ease with which to manoeuvre the terrain inside the home	
	Ease with which to manoeuvre the terrain outside the home	
	Did the HBC ask about any physical barriers in the environment	
Psychological environment	Did the HBC consider aspects such as:	
	Level of adjustment to changes of role?	
	Psychological support systems?	
	Opportunities to relieve stress?	
	Stressors in the environment?	
Social environment	Did the HBC assess social economic needs:	
	Adjustment to limited or no resources?	
	Income?	
	Budgeting skills?	
	Coping with inflation?	
	Did the HBC assess social networks:	
	Support groups / family support / traditional / peer groups?	
	Visiting possibilities / opportunities?	
	Enhancement of values and dignity?	
	Did the HBC assess social communication between patient and:	
	Social groups?	
	Relationships?	
	Friendships?	
	Sexuality?	
	Pets?	
	Availability of suitable transport?	
	Alternative communication (e.g. whistles and bells)	

Lifestyle

Nutrition	Did the HBC consider:	
	Availability of food?	
	Availability of cooking equipment?	
	Eating patterns or habits?	
	Knowledge of healthy balanced diet?	
	Maintenance of hydration?	
	The need for special dietary supplements?	

	Factors influencing poor nutritional status?	
Exercise and rest	Did the HBC consider:	
	The extent of appropriate exercise and rest?	
	Factors that inhibit exercise, e.g. pain, weakness, dizziness?	
Personal habits and sexuality	Did the HBC consider:	
	Personal hygiene?	
	Sexual needs and habits?	
	Extent of smoking and drinking, or other substances?	
Recreation	Did the HBC consider level of engagement in activities such as:	
	Reading, TV, music, hobbies?	
	Barriers to socialising	

Activities of Daily Living (ADL)

Mobility	Did HBC:	
	Assist patient to get up in bed?	
	Assist patient rolling in bed?	
	Assist patient to get up into wheelchair?	
	Assist patient to get up into chair (not wheel-chair)?	
	Assist patient to walk (if applicable)?	
	Take patient up and down stairs (if applicable)?	
	Take patient outside?	
	Witness patient utilising any mobility aids?	
	Readjust mobility aids to improve mobility if necessary?	
Positioning	Did the HBC:	
	Correct or adjust position of patient in bed?	
	Correct or adjust position of patient in chair or wheelchair?	
Locomotion	Did HBC:	
	Check distance patient can walk independently without stopping and without sever discomfort?	
Transfer	Did HBC:	
	Check if patient can transfer independently in and out bed?	
	Check if patient can transfer independently in and out of chair?	

	Assist/ advise with transfers?	
Dressing	Did HBC:	
	Assess patient's ability to dress / undress independently?	
	Assist in dressing / undressing of patient?	
Washing	Did HBC:	
	Assess the patient's ability to wash his / her hands and face independently?	
	Assess the patient's ability to wash his / her body independently?	
	Have to assist in washing the patient?	
Exercise	Did the HBC:	
	Prescribe/demonstrate any exercises for strengthening or stretching?	
	Perform any passive movements?	
	Demonstrate/perform any active-assisted exercises	
Feeding	Did HBC:	
	Whether the patient feeds independently?	
	Whether the patient can cut own food?	
	Assist with feeding?	
	Provide an assistive device/or build up utensil	
Toileting	Did HBC:	
	Assess patients' ability to get to and from the toilet?	
	Assess patients' ability to use the toilet?	
	Have to assist patient in using the toilet?	
	Have to assist with toileting in the bed (e.g. bedpan)?	
	Provide assistive device e.g. raised toilet seat.	
Continence	Did HBC:	
	Have to change patient's diaper?	
Hearing	Did HBC:	
	Check patient's hearing?	
Vision	Did HBC:	
	Check patient's sight?	
Speech	Did HBC:	
	Check patient's ability to speak?	

Core Home / Community-Based Care Activities

Care/Intervention	Did the HBC provide:	
	Preventative, supportive and follow-up on basic curative nursing and simple first aid, and immunisation?	
	Case management or disease management?	
	Personal care and hygiene?	
	Rehabilitative care and independence training?	
	Palliative care?	
	Emergency intervention?	
	Quality assurance?	
Provision of Essential Medicine	Did the HBC provide:	
	Provision of essential medicine(s)?	
	Recording and monitoring of use of drugs?	
	Compliance with prescribed drugs and non-drug treatment?	
	Due consideration of toxicity and possible side effects?	
Provision of basic assistive devices and medical devices	Did the HBC provide:	
	Provision of/arranging for basic medical and assistive devices and replacements in line with the relevant guidelines in the PHC programme?	
	Medical devices include e.g. catheters, urine bags and colostomy bags, etc.	
	Assistive devices include e.g. walking sticks, wheelchairs, walkers, and hearing aids.	
Health promotion and education	Did the HBC provide:	
	Recreational activities?	
	Prevention of substance abuse?	
	Suitable exercise and rest?	
	Safety in and around the house?	
	Healthy diet or nutrition?	
	Psychological activities – mental stimulation?	
	Personal care e.g. eye, hair, dental care, foot care and toileting?	
	Promote Healthy lifestyle?	

8.6 Appendix 6: Home based carers questionnaire: attitudes towards working with physiotherapy students

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Organisation: _____

Please complete the following questions by ticking the appropriate box:

Question 1:

Have you worked with physiotherapy students within the last 12 months?

Yes	
No	

Question 2:

Rate your agreement with the following statements using Strongly Disagree; Disagree; Neutral; Agree; Strongly Agree

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Working with physiotherapy students was a good experience					
I felt unprepared to work with the students					
I learned from the students					
I felt that the students were unsafe in the community					
Community block was a poor learning experience					
The student contributed to my understanding of the clients and their conditions					

8.7 Appendix 7: Physiotherapy student questionnaire

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Questionnaire filled in by the students on Survey Monkey, an on-line survey web-site.

Statements	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Working with home based carers was a good experience					
I felt unprepared to work with home based carers					
I learned from the home based carers					
I felt unsafe with the home based carers in the community					
Community block was a poor learning experience					
The home based carers contributed to my understanding of the community, clients and their conditions					

8.8 Appendix 8: Assessment outline for students on a community placement

Demographics: name, age, address, diagnosis, name of Home based carer

SUBJECTIVE INFORMATION:
Should include:
History- details of main medical event – include information on Rehab input at all levels of care (hospital, CHC etc.); Understand why HBC visits
Support: Family, financial, community
Medical – relevant history and management: note chronic diseases of lifestyle - meds – consider impact of obesity, HPT, Diabetes on client and family
Social – home environment; include access to water, electricity, stairs etc. Consider if these are barriers to function and barriers to access to healthcare e.g. transport to CHC. Social groups/support groups
Function – current baseline, previous levels, clients' needs and expectations (including assistive devices)

OBJECTIVE ASSESSMENT
Should include;
Function: Highest level and its components: work as applicable through

- Gait
- Standing- including posture and balance
- Sit to stand
- Sitting- including posture and balance
- Sitting to supine
- Rolling and other aspects of bed function

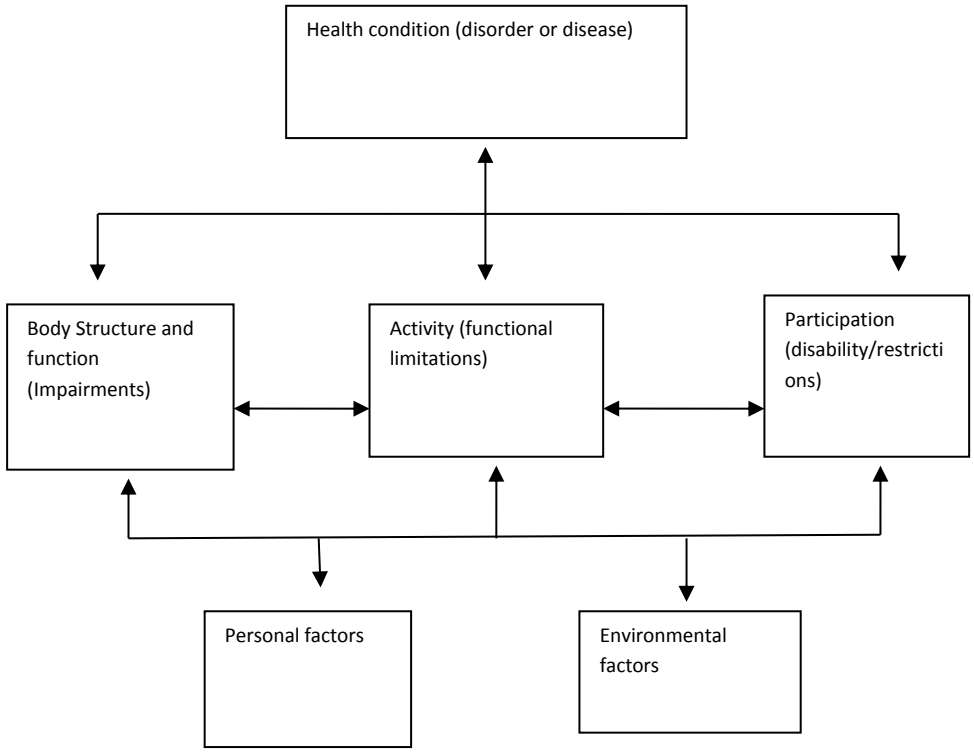
Within this analysis you will see the difficulties. Then use your physio specific assessment skills to create a framework to understand why functional difficulties exist. This would include measurements of

- ROM
- Muscle Power
- Tone
- Balance
- Proprioception
- Sensation
- If needed: Measurement tools e.g. 6-min-walk test, up and go etc.
- If applicable: respiratory assessment

From this information you will be able to:

Create an ICF framework for your patient

The ICF Model: Interaction between ICF components



Impairment – activity limitation – participation restriction, considering personal and environmental factors.

Draw up a problem list within the following structure

Problem (functional)	Missing component	Underlying reason	Short term aim (including functional)	Long term aim (functional)	Treatment plan

In looking at treatment consider the following

- Impairment vs. Function
- Active participation – carers and client -? family
- Communication – you, carer and client – family

Treatment can cover a broad range of modalities/ ideas/ components if one considers the basic CBR matrix: - think Health; Education; Empowerment

8.9 Appendix 9: Home based carers' information letter and consent form (isiXhosa)

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18 July 2012

Ndingumfundisi-ntsapho ojengene nokulungiswa kwamathambo nezihlunu ophuma kwi dyunivesithi yase kapa. Ndiza kwenza uphando ukujonga ndifune ulwazi nobuchule obufuneka ukunika ululeko kubantu jikelele.

Isihloko: ukulungiswa kwamathambo nezihlunu usebenza nabongi/kazi basemakhaya nokunika uncedo eluntwini. Physiotherapy abafundi abavela e(UCT) bahamba neHBCs ezisuka kwimibutho yale dyunivesithi bejikeleza ukuye bancedakale ukunyusa izinga lobuchule beqondo leHBCs.

Ixabiso lolunxibelelwane neHBCs, nabantu nabafundi kufuneka luvavanywe. Abantu abahlulwe kubini bakuthi bajongwe kwenye yeztimu zimbini kuyabakho umfundi oyakubakhapha ngalolonke ixesha abajonge inqubo yabo kwezizifundo. wonke umntu othe wangenelela uyakunikwa imbalelwno yemibuzo aze ayiphendule ngaphambi kokuba angene. wena ke njengomntu othe wangenela uyakukhatshwa ujongwe ngalolonke ixesha.ngelixa usenza umsebenzi umfundi lo ebekujongile uakasayi kuphazamisana nendlela osebenza ngayo ntonje uyakugcwalisa ilisti yezinto zonke ezithe zenziwa mgumfundi lowo wakwa HBC.Akunyanzelekanga uhlale
kwezizifundo ungaphuma nanini uthanda kungekho ntlawulo nanckazelo. Imfihlo mayibekho awusayikubhengezwa ngokole akukhomntu uyakwazi ukuba ubani wenzeni xa kuphuma ingxelo. Ingxelo ziyakuphuma kungapapashwanga magama. Akukho ntlawulo nazi ndleko.

Akusayikukutshwa ziphumo ze HBC's kunye namagama azo,umbutho lo wo wezo HBC's awusayi kuxelelwa ukuba ngubani owenze ntoni na.

Ingxelo ngokubanzi qhagamshelana naba bantu balandelayo.

Ms Soraya Maart (Supervisor) 021 406 6597, or
Professor Jennifer Jelsma (Co-supervisor) 021 406 6595

Thank you
Letitia Rustin (Researcher) 021 406 7679, 082 564 5370

By signing this form, it confirms that you have had sufficient time to read and understand this consent form. By signing this, you are agreeing to participate in our study.

_____ _____ _____
Signature of Volunteer Name (Please Print) Date

_____ _____ _____
Signature of Witness Name (Please Print) Date

_____ _____ _____
Signature of Investigator Name (Please Print) Date

HBCs' Information and consent letter (English)
University of Cape Town
Department of Health and Rehab Sciences
Division of Physiotherapy

I am a clinical educator from the division of physiotherapy from the University of Cape Town. I will be conducting a study to assess the knowledge and skills of HBCs required to render rehabilitation services at community level.
Title: Physiotherapy Student interaction with Home-based Carers and the impact on service delivery.
Physiotherapy students from UCT accompany HBCs from organisations affiliated to the university on their rounds and it is possible that the students are able to improve the skills level of the HBCs. The value of this interaction to HBCs, their clients and the students' need to be assessed.
Two groups of participants (HBCs) will be observed and one of these groups will have a physiotherapy student accompany them on their rounds later during the study. Each participant will complete a questionnaire beforehand. You as the participant will continue your normal rounds for the day while the observer accompany you. The observer will not interfere with the session but will basically just complete a checklist of duties/interventions done by the HBC.
There will be no risks involved and if there is a need the observer will refer the clients to appropriate services if necessary.
Your participation is voluntary, you are under no obligation to participate in this study and there will be no penalty. You have no obligation to remain in this study and can withdraw at any point without any repercussions or explanation. Confidentiality must be maintained throughout this study. The names of the participants will not be mentioned and therefore no one will know who did what when the results are reported. The results will be presented without identifying HBCs' names. The HBC organisation will not know which care-giver did what. There will be no payment and no costs will be incurred.
For further information, please contact the following:
Ms Soraya Maart (Supervisor) 021 406 6597, or
Professor Jennifer Jelsma (Co-supervisor) 021 406 6595

Thank you
Letitia Rustin (Researcher) 021 406 7679, 082 564 5370

By signing this form, it confirms that you have had sufficient time to read and understand this consent form. By signing this, you are agreeing to participate in our study.

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Signature of Volunteer Name (Please Print) Date

_____ _____ _____
Signature of Witness Name (Please Print) Date

_____ _____ _____
Signature of Investigator Name (Please Print) Date

8.10 Appendix 10: Client information and consent letter (isiXhosa)

Department of Health and Rehabilitation Sciences

Faculty of Health Sciences

Divisions of Communications Sciences and Disorders, Nursing and Midwifery, Occupational Therapy, Physiotherapy

F45 Old Main Building, Groote Schuur Hospital,

Observatory 7925

Tel: +27 (0) 21 406 6401 Fax: +27 (0) 21 406 6323

Ndingumfundisi-ntsapho ojengene nokulungiswa kwamathambo nezihlunu ophuma kwi dyunivesithi yase kapa. Ndiza kwenza uphando ukujonga ndifune ulwazi nobuchule obufuneka ukunika ululeko kubantu jikelele.Isihloko:ukulungiswa kwamathambo nezihlunu usebenza nabongi/kazi basemakhaya nokunika uncedo eluntwini. Physiotherapy abafundi abavela e(UCT) bahamba neHBCs ezisuka kwimibutho yale dyunivesithi bejikeleza ukuye bancedakale ukunyusa izinga lobuchule beqondo leHBCs. Ixabiso lolunxibelelwane neHBCs, nabantu nabafundi kufuneka luvavanywe.Wena njengelungu uyakutyelelwa yiHBC nombukeli usenza oko uqhele ukwenza. Umbukeli akafuneki akuphazamise xa uphakathi kwi seshani kodwa uyakubhala uphendlo lomsembenzi owenziswe yi Hbc. Ethubeni ekufundeni iHBC iyakuhamba nalowo uqeqeshelwa ukulungiswa kwamathambo nezihlunu kwiveki ezintlanu.Akukho mngcipheko ukuba kukho imfuneko umbukeli uyakuthumela ilungu kwiziko elifanekileyo.Ungenela ngokuzithandela akunyanzelekanga uthathe inxaxheba kwezizifundo awuyikohlwaywa. Akunyanzelekanga uhlale kwezizifundo ungaphuma nanini uthanda kungekho ntlawulo nanckazelo. Imfihlo mayibekho awusayikubhengezwa ngokole akukhomntu uyakwazi ukuba ubani wenzeni xa kuphuma ingxelo. Ingxelo ziyakuphuma kungapapashwanga magama. Akukho ntlawulo nazi ndleko.

Ingxelo ngokubanzi qhagamshelana naba bantu balandelayo

Ms Soraya Maart (Supervisor) 021 406 6597, or
Professor Jennifer Jelsma (Co-supervisor) 021 406 6595
Thank you
Letitia Rustin (Researcher) 021 406 7679, 082 564 5370
By signing this form, it confirms that you have had sufficient time to read and understand this consent form. By signing this, you are agreeing to participate in our study.

_____	_____	_____
Signature of Volunteer	Name (Please Print)	Date
_____	_____	_____
Signature of Witness	Name (Please Print)	Date
_____	_____	_____
Signature of Investigator	Name (Please Print)	Date

Client information and consent letter (English)

University of Cape Town
Department of Health and Rehab Sciences
Division of Physiotherapy

I am a clinical educator from the division of physiotherapy from the University of Cape Town. I will be conducting a study to assess the knowledge and skills of HBCs required to render rehabilitation services at community level.
Title: Physiotherapy Student interaction with Home-based Carers and the impact on service delivery.
Physiotherapy students from UCT accompany HBCs from organisations affiliated to the university on their rounds and it is possible that the students are able to improve the skills level of the HBCs. The value of this interaction to HBCs, their clients and the students' need to be assessed.
You as the client will be visited by the HBC and an observer and continue the sessions as you normally would. The observer will not interfere with the session but will be completing a checklist of duties/interventions done by the HBC. Later during the study the HBC will be accompanied by a physiotherapy student for the sessions for duration of five weeks.
There will be no risks involved and if there is a need the observer will refer the clients to appropriate services if necessary.
Your participation is voluntary, you are under no obligation to participate in this study and there will be no penalty. You have no obligation to remain in this study and can withdraw at any point without any repercussions or explanation. Confidentiality must be maintained throughout this study. The names of the participants will not be mentioned and therefore no one will know who did what when the results are reported. The results will be presented without identifying clients' names. There will be no payment and no costs will be incurred.

For further information, please contact the following:
Ms Soraya Maart (Supervisor) 021 406 6597, or
Professor Jennifer Jelsma (Co-supervisor) 021 406 6595

Thank you
Letitia Rustin (Researcher) 021 406 7679, 082 564 5370
By signing this form, it confirms that you have had sufficient time to read and understand this consent form. By signing this, you are agreeing to participate in our study.

_____ _____ _____
Signature of Volunteer Name (Please Print) Date

_____ _____ _____
Signature of Witness Name (Please Print) Date

_____ _____ _____
Signature of Investigator Name (Please Print) Date

8.11 Appendix 11: Chi-square tests of clients' main problems

	No Understanding, communication problems	Understanding, communication problems	Row - Totals
Control	37	13	50
	74%	26%	
Experimental	37	13	50
	74%	26%	
Totals	74	26	100

Pearson Chi-square 0.00 df=2 P=1.00

	No problems getting around	Problems getting around	Row - Totals
Control	24	26	50
	48%	52%	
Experimental	21	29	50
	42%	58%	
Totals	45	55	100

Pearson Chi-square 0.36 df=2 p=0.83

	No Self-care problems	Self-care problems	Row - Totals
Control	22	28	50
	44.00%	56.00%	
Experimental	28	22	50
	56.00%	44.00%	
Totals	50	50	100

Pearson Chi-square 1.44 df=2 p=0.49

	No problems getting along with others, friends, sexual activities	Getting along with others, friends, sexual activities problems	Row - Totals
Control	37	13	50
	74%	26%	
Experimental	40	10	50
	80%	20%	
Totals	77	23	100

Pearson Chi-square 0.51 df=2 p=0.78

	No Life activities problems	Life activities problems	Row - Totals
Control	27	23	50
	54%	46%	
Experimental	33	17	50
	66%	34%	
Totals	60	40	100
Pearson Chi-square	1.50 df=2 p=0.47		

	No Participation in society problems	Participation in society problems	Row - Totals
Control	27	23	50
	54%	46%	
Experimental	35	15	50
	70%	30%	
Totals	62	38	100
Pearson Chi-square	2.72 df=2 p=0.26		

	No anxiety, depression	Anxiety, depression	Row - Totals
Control	34	16	50
	68%	32%	
Experimental	39	11	50
	78%	22%	
Totals	73	27	100
Pearson Chi-square	1.27 df=2	p=0.53	

	No pain, discomfort	Pain, discomfort	Row - Totals
Control	18	32	50
	36%	64%	
Experimental	23	27	50
	46%	54%	
Totals	41	59	100
Pearson Chi-square	1.03 df=2	p=0.60	